

Marine Conservation Zone Project

**JNCC and Natural England's advice to Defra
on recommended Marine Conservation Zones**

July 2012

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Executive Summary

Marine Protected Areas (MPAs) are an important tool to protect the marine environment. MPAs help society use the goods and services provided by the sea in a sustainable manner. The UK supports international agreements and European obligations to protect the marine environment, which include designating MPAs. Marine Conservation Zones (MCZs) are a new form of MPA created under the Marine and Coastal Access Act 2009 (MCAA) to conserve marine animals, plants and their habitats, together with areas of geological importance. By conserving these species and habitats, MCZs will join other types of MPA to create a network in the UK's seas, and contribute to wider European and global initiatives.

The Joint Nature Conservation Committee (JNCC) and Natural England set up a project in 2008 to give sea-users (stakeholders) the opportunity to recommend possible MCZs to UK Government. The MCZ Project had four regional projects that covered the inshore waters around England and the offshore waters around England, Wales and Northern Ireland (known as the Defra marine area). The Governments in Wales, Scotland and Northern Ireland also have projects to identify MPAs in their waters. We provided support to these regional MCZ projects to help them deliver recommendations that would meet the Government's needs under the MCAA. We published the Ecological Network Guidance (ENG) in July 2010 to guide the projects on how to identify and recommend an appropriate suite of MCZs that would meet Government policy. The ENG lists the marine animals, plants and their habitats, collectively known as features, that need protection. In September 2011, these regional MCZ projects recommended 127 MCZs to JNCC and Natural England. The recommended MCZs cover approximately 15% of the Defra marine area. They included 65 areas proposed for high levels of protection known as reference areas. Defra, the UK Government Department responsible for MCZs, asked JNCC and Natural England to review these rMCZs to check how they compare with scientific standards and comply with government requirements.

Defra asked that our evidence-based scientific advice should provide:

- An overview of the regional MCZ project process that recommended possible MCZs;
- An assessment of the available scientific evidence supporting the regional MCZ project recommendations;
- An assessment of the recommended MCZs most at risk of damage from human activities which, together with any other reasons, suggest any MCZs receive priority protection;
- Advice on the contribution of MCZs towards meeting the Government's aim of creating an ecologically coherent network of MPAs; and
- JNCC and Natural England's overall view of the regional MCZ project recommendations.

The report presenting JNCC's and Natural England's formal advice on the MCZ recommendations from the regional MCZ projects runs to over 1,500 pages including technical annexes setting out the detailed assessments. The present text provides an overview of our report and our main conclusions and key messages for Defra.

When compiling our advice, we have endeavoured to comply with the Government Chief Scientific Adviser's guidelines for preparing scientific advice, and the recommendations of the Graham-Bryce report that reviewed the evidence process for selecting marine Special Areas of Conservation (SACs). Our advice has been comprehensively checked and quality assured through our internal systems, reviewed by an independent expert review group commissioned by Defra, and finally reviewed and signed-off by our respective independent non-executive boards. Our assessments followed published peer-reviewed protocols and used the best evidence available at the time. Overall, we are content that our advice is a

quality-assured product, fit for purpose, to assist the Government to make decisions on the designation of MCZs.

JNCC and Natural England anticipate that by designating MCZs to meet the network design principles set out in the ENG, and particularly for features not represented in existing MPAs, MCZs will make an appropriate contribution towards the requirements of the MCAA. We conclude that the regional MCZ projects' recommendations followed the ENG and therefore reflect the requirements of the MCAA and Defra policy. The recommendations met the basic requirement to identify MCZs for rare, threatened and representative marine flora and fauna as well as features of geological and geomorphological interest, whilst taking social and economic impacts (costs and benefits) into account.

The ENG sets out a series of principles and guidelines for the design of a network of MPAs that would be ecologically coherent based on international best practice and published science. We **advise** that overall the recommendations submitted by the regional MCZ projects, when combined with the contribution of existing MPAs, have met many of the network design principles and represent not only good progress towards the achievement of an ecologically coherent network but also a balance between the ecological requirements for the network and minimising impact on socio-economic interests. Therefore, we support the recommendations submitted by the regional MCZ projects, subject to the additional recommendations proposed in our advice.

JNCC and Natural England assessed the evidence to support the presence and extent of the features within the recommended MCZs. Our analyses of the 1,205 features conclude we have greater confidence in the presence of a feature than its extent. We have high confidence in 41% of assessments for presence, but 36% of features have low confidence. We had high confidence in 16% of assessments for a feature's extent, with 56% assessed as low confidence. We gave a score of 'no confidence' for both presence and extent to less than 5% of features.

We also considered the evidence to assess the current condition (ecological quality or state) of the features in the rMCZs. For all but 19 features, we **conclude** that there is a low confidence in the assessment of current condition. We fully expected such a low result because there have been few studies that collected suitable data to assess the state of a feature; most studies provide data on the presence and extent of features. Detailed evidence on the condition of species and habitats is sparse, except perhaps within existing designated sites. We discuss some of the recent, ongoing and planned survey work to improve the evidence on MCZ features. We note that the availability of evidence is only one factor when considering whether a recommended MCZ should go forward for designation.

JNCC and Natural England published the Conservation Objective Guidance to help the regional MCZ projects propose draft conservation objectives for the features in their recommended MCZs. We reviewed these draft conservation objectives and **advise** that the objectives for 61 features are changed from what was recommended by the regional MCZ projects. Five of these changes refer to features located in the offshore area and the remaining 56 changes are to features in the inshore area. This is because some inshore features were not assessed nor given a conservation objective by the regional MCZ projects, our advice now offers draft objectives for these features. In addition, the majority of the advised changes in the inshore area are as a result of the assessment that standardised fisheries spatial data collated from the four regional projects. We advise that 39 change from maintain to recover and 22 change from recover to maintain. Overall, these amendments only represent changes to less than 5% of the 1205 features recommended by the regional MCZ projects.

JNCC and Natural England note that any prioritisation of recommended MCZs for designation can be based on a number of criteria, including for example, the evidence base, the levels of stakeholder support, the potential economic consequences, and the contribution towards meeting the UK's national and international commitments. We **advise** that the designation of recommended MCZs should be prioritised to

ensure that those species and habitats identified under international and European obligations but not adequately represented in existing MPAs are represented within MCZs in the Defra marine area to enable the UK to meet its international commitments.

A feature within an MCZ is considered to be at risk of damage or deterioration if it is vulnerable to a pressure arising from human activities. A feature is vulnerable to a pressure when it is both sensitive to, and exposed to, that pressure. We **advise** that 33 inshore, 15 offshore and 11 joint recommended MCZs are at higher risk of damage or deterioration due to prevailing pressures from human activities.

Our advice reviewed the regional MCZ project approach since it was the first time a stakeholder-led process had been used to recommend MPAs in the UK. There were regional differences in the engagement and governance structures established by the regional MCZ projects. However, we believe that in all but one case these differences did not materially affect the development of recommendations but reflected the geographical variation between the project areas. Not surprisingly, there was significant variation in the extent to which members of the regional stakeholder groups liaised with their constituents to ensure sector-wide views were considered during the MCZ planning meetings and there were some complaints from both local stakeholders and international stakeholders. However, the regional MCZ project teams conducted over 2,300 interviews with stakeholders (individuals and organisations) to gather information on their use of the sea. The teams organised over 150 regional or local events and produced over 500 media articles and interviews. We estimate that the organisations engaged by the regional MCZ projects have, through their membership, shared data representing over 600,000 stakeholders.

We engaged international stakeholders through a series of bespoke visits and through group meetings such as those held by the EC fisheries Regional Advisory Councils (RAC). Most international engagement focused on fisheries stakeholders where we held meetings in Belgium, France, Denmark, Ireland, Netherlands and Spain; and we also attended 10 RAC meetings. We took a similar approach with UK fishers from Northern Ireland, Scotland and Wales to ensure their views were considered during the regional MCZ project process.

JNCC and Natural England **commend** the MCZ process as an effective means to identify MPAs involving stakeholders, particularly noting the benefits arising from increased public awareness of marine biodiversity, greater understanding between stakeholders of respective positions and their ownership of the recommendations. Such benefits will assist in future management of any MCZ and the achievement of Government's aim for an ecological coherent network of well managed MPAs.

Summary of JNCC and Natural England advice to Defra

About this advice

The marine environment is an essential part of our heritage and future. The seas around the UK are home to over 8,000 species including many of international and European importance, from corals and jelly fish to seahorses and kelp forests. The marine environment contributes substantially to our economic and social well-being. It supports a range of industrial and recreational activities, is a major source of food and plays an important role in climate regulation – absorbing and retaining more carbon dioxide than the land. Marine habitats and species provide beneficial ecosystem processes and services to society. The 2011 UK National Ecosystem Assessment (Austen, et al. 2011) describes these benefits which include the provision of food; reduction of climate stress¹; genetic resources; energy; blue biotechnology; fertiliser (seaweed); coastal protection; waste detoxification and removal and disease and pest control; tourism, leisure and recreation opportunities; a focus for engagement with the natural environment; physical and mental health benefits; and cultural heritage and learning experiences.

We know that human activities can adversely affect our marine environment and reduce the benefits it can provide to society. Marine Protected Areas (MPAs) are an important tool to integrate human activities with better protection of the marine environment. Marine Conservation Zones (MCZs) are a new form of MPA created under the Marine and Coastal Access Act 2009 (MCAA). MCZs will protect both nationally important habitats and species, together with examples of more commonly occurring habitats representative of the UK's marine flora and fauna. By conserving these species and habitats, MCZs will join other types of MPA² to create a network in the UK's seas, and contribute to wider European and global initiatives.

Defra asked the Joint Nature Conservation Committee (JNCC) and Natural England to set up a project in 2008 to give sea-users (stakeholders) the opportunity to recommend possible MCZs to UK Government. The MCZ Project had four regional projects that covered the inshore waters around England and the offshore waters around England, Wales and Northern Ireland (known as the Defra marine area). To meet Government policy and international commitments such as the OSPAR Convention and the Convention on Biological Diversity (Defra 2010a, 2010b, HM Government 2010, OSPAR 2010, CBD 2010a) we developed the Ecological Network Guidance (ENG). We published the ENG in July 2010 to guide the projects on how to identify and recommend an appropriate suite of MCZs (Natural England and the Joint Nature Conservation Committee 2010). The ENG lists the marine animals, plants and their habitats, collectively known as features, that need protection. In September 2011, the regional projects proposed 127 recommended MCZs to JNCC and Natural England³. These recommendations included 65 areas recommended for high levels of protection, known as reference areas – some within MCZs or existing MPAs and some as standalone MCZs. Overall, the recommended MCZs cover approximately 15% of the Defra marine area. Defra, the UK Government department responsible for MCZs, asked JNCC and Natural England to review these recommended MCZs to check how they compare with scientific standards and comply with government requirements.

Defra asked that our evidence-based scientific advice should provide:

- An overview of the regional MCZ project process that recommended possible MCZs;

¹ Climate stress is reduced through the regulating carbon and other biogases.

² Other MPAs will comprise Special Area for Conservation (SACs) and Special Protection Areas (SPAs) under the EC Habitats and Birds Directives respectively, the marine elements of Sites of Special Scientific Interest (SSSIs), Ramsar sites (RAMSAR

² Other MPAs will comprise Special Area for Conservation (SACs) and Special Protection Areas (SPAs) under the EC Habitats and Birds Directives respectively, the marine elements of Sites of Special Scientific Interest (SSSIs), Ramsar sites (RAMSAR Convention) and other national designations being planned in Scotland, Wales and Northern Ireland.

³ Reports are available on www.balancedseas.org, www.finding-sanctuary.org, www.irishseaconservation.org.uk, www.netgainmcz.org

- An assessment of the available scientific evidence supporting the regional MCZ project recommendations;
- An assessment of the recommended MCZs most at risk of damage from human activities which, together with any other reasons, suggest any MCZs receive priority protection;
- Advice on the contribution of MCZs towards meeting the Government's aim of creating an ecologically coherent network of MPAs; and
- JNCC and Natural England's overall view of the regional MCZ project recommendations.

The full report presenting JNCC's and Natural England's formal advice on the MCZ recommendations from the regional MCZ projects runs to over 1,500 pages including technical annexes setting out the detailed assessments. The present text provides a summary of the advice and the key messages for Defra. JNCC and Natural England have jointly written this advice. However, we have different geographical remits (with JNCC advising on nature conservation beyond 12 nautical miles and Natural England advising within 12 nautical miles). We therefore specify where advice to Defra is from both organisations or from one organisation. Where we use 'we' or 'us' we mean JNCC and Natural England.

Our formal advice contains our evidence-based assessment of stakeholders' recommendations developed through the regional MCZ projects. We have endeavoured to comply with the Government Chief Scientific Adviser's guidelines for preparing scientific advice (Government Office for Science 2010), and the recommendations of the Graham-Bryce report that reviewed the evidence process for selecting marine Special Areas of Conservation (Graham-Bryce 2011). Our advice has been comprehensively checked and quality assured through our internal systems, reviewed by an independent expert review group commissioned by Defra, and finally reviewed and signed-off by our respective independent non-executive boards. Our assessments followed published peer-reviewed protocols⁴ and used the best evidence available at the time.

The follow sections describe JNCC and Natural England's conclusions following our review of the regional MCZ projects' recommendations and set out our formal advice and key messages. Our advice is organised around Defra's request set out above.

Advice on the MCZ Project process

JNCC and Natural England established the Marine Conservation Zone Project in 2008, setting up four regional MCZ projects that gave stakeholders the responsibility to develop recommendations on the features, boundaries and conservation objectives of MCZs. To facilitate the delivery of the required outputs from the four regional MCZ projects, we provided the regional MCZ project teams and regional stakeholder groups with the Project Delivery Guidance (PDG) (Natural England and JNCC 2010). Since publication, the timetable for delivery and specific requirements for the regional MCZ projects were changed and we will be identifying amendments made to the delivery timetable and other changes to the process through an addendum to be published in summer 2012.

The regional MCZ projects submitted their recommendations in September 2011. JNCC and Natural England **conclude** that the regional MCZ projects broadly followed the PDG and therefore the outputs reflect the requirements of the MCAA and Defra policy. The recommendations met the basic requirement to identify MCZs for rare, threatened and representative marine flora and fauna as well as features of geological and geomorphological interest, whilst taking social and economic impacts (costs and benefits) into account.

⁴ The protocols can be viewed at www.jncc.defra.gov.uk/page-5999

There were regional differences in the engagement and governance structures established by the regional MCZ projects. However, we believe that in all but one case these differences did not materially affect the development of recommendations but reflected the geographical variation between the project areas.

There was significant variation in the extent to which members of the regional stakeholder groups liaised with their constituents to ensure sector-wide views were considered during the MCZ planning meetings. A number of stakeholders made complaints feeling that their views were not reflected in the recommended MCZ identification process.

The Named Consultative Stakeholder (NCS) process was criticised by stakeholders as they felt the regional stakeholder groups did not take on board their opinions. International stakeholders and particularly non-native English speakers struggled to contribute as NCS due to vast amount of information produced by the regional MCZ projects. We **recommend** that Defra ensures that the public consultation is widely advertised to all sectors with a clear invitation to comment on the proposed MCZs and associated Impact Assessment. We **suggest** the consultation material is translated into other EU languages to help stakeholders in other Member States to engage.

National and international stakeholders found the UK MPA process to be very resource-intensive due to needing to engage in the four regional MCZ projects, the Scottish Marine Protected Area Project, Welsh MCZ project and Natura 2000 process. We advise that sufficient resources be assigned to regional, national and international stakeholder engagement for the remainder of the MPA processes, to maintain and build relationships, communications and trust.

We **conclude** that the regional MCZ projects' recommendations for conservation objectives submitted in September 2011 reflect the views of the regional stakeholder groups, and not JNCC, Natural England or Public Authorities. Further work has been undertaken by JNCC and Natural England to refine the conservation objective recommendations. We **consider** it vital that processes in line with the requirements of the MCAA are put in place to enable our conservation objective advice to be refined as new information becomes available. We **advise** that any changes from the conservation objectives identified by the regional stakeholder groups may lead to a requirement for management that differs from stakeholder expectations.

We **advise** Public Authorities that once it is confirmed that sites are to be designated they should consider initiating a programme of stakeholder engagement to identify management measures that will deliver the conservation objectives of designated MCZs and ensure they are understood and as widely supported as possible.

In order to manage MPAs in UK offshore waters and certain areas between 6 and 12 nautical miles, it will be necessary to seek measures under the EU's Common Fisheries Policy. It is important in this context that all fishing fleets with an interest in MPAs are treated equitably regardless of national origin. We **advise** that due to risk of challenge regarding equity in MCZ decision making, an assessment of the risks associated with achieving site management through the Common Fisheries Policy is undertaken.

Stakeholders were engaged through various meetings and forms of correspondence, but some stakeholders did not fully engage in the MCZ Project at an early stage. There was a knock-on effect of the regional MCZ projects being inundated with requests as the MCZ Project progressed. Although wider project communications were extensive, we acknowledge that some stakeholders were not aware that recommended MCZs and recommended reference areas were being proposed in areas they use or have an interest in until after the submission of final recommendations.

In order to ensure stakeholder involvement during the MCZ consultation and designation phase, we will continue our engagement efforts with national and international stakeholder organisations. Although

stakeholders voiced concerns about the project, good relationships have been formed through the course of engagement work. It is important to continue working with these stakeholders.

Advice on the regional MCZ project recommendations

Assessment of recommendations against the Ecological Network Guidance

The ENG sets out a series of principles and guidelines for the design of a network of MPAs that would be ecologically coherent based on international best practise and published science. We **advise** that overall the recommendations submitted by the regional MCZ projects, when combined with the contribution of existing MPAs, have met many of the network design principles and represent not only good progress towards the achievement of an ecologically coherent network but also a balance between the ecological requirements for the network and minimising impact on socio-economic interests. Therefore, we **support** the recommendations submitted by the regional MCZ projects, subject to the additional recommendations proposed in our advice.

JNCC and Natural England **note** that the degree to which the network design principles have been achieved will ultimately depend on the final suite of recommended MCZs put forward for designation.

We **suggest** that Defra should further consider whether geological or geomorphological features are adequately incorporated in rMCZs for geo-conservation in the marine area and that geological stakeholders should be involved in any further process.

We **advise** that some features or sites may appear to have less information than others in terms of contribution to the network design principles and ecological benefits; however, this may be a reflection of limited data and evidence rather than an indication of their importance.

Natural England **advises** that Defra and Natural England agree an approach to deal with the issue of overlapping designations between Sites of Special Scientific Interest (SSSI) and MCZs and then apply this approach to the relevant features.

JNCC and Natural England **advise** that an approach will need to be agreed with Defra to deal with the issue of overlapping designations between MCZs and Special Areas of Conservation (SACs) in particular to assess if the alteration of the SAC boundaries is the best way forward for the protection of the relevant features and the simplification of the designation processes.

We **note** that the current recommendations include some features that could be seen as gaps within the SAC network as those features are not currently represented within the SAC network within the respective regional seas. Therefore, JNCC and Natural England **advise** that an approach for the assessment of MCZ proposals in relation to potential gaps on the SAC network will need to be agreed with Defra.

We need to develop a new base map of marine habitat features that takes into account the results of the evidence assessment and any new data that become available to JNCC and Natural England in the future. JNCC and Natural England **propose** a further assessment is undertaken on all features within MCZs and existing MPAs before the public consultation to account for any new information. It should include new information from the evidence reviews ([Section 5.1](#)); any suggested changes to the feature and site recommendations following the results of our assessments on site/feature recommendations; and any new evidence gathered from survey work ([Section 5.3](#)) and the Defra contract MB0116 'in-depth review of evidence assessment'. The new base map should be used to re-run the analysis of the contribution of existing MPAs and then recalculate whether all proposed MPAs meet the ENG guidelines for replication, adequacy, viability and connectivity. We **suggest** that further work is undertaken to fill the remaining gaps in recommended MCZs taking into account biogeographical considerations and to inform the progress towards the development of an ecologically coherent network.

JNCC and Natural England **conclude** that with regards to the achievement of the ENG guidelines, the largest gap is around 'the protection principle' as there is a shortfall on the overall composition, design and viability of the recommended reference areas. JNCC and Natural England **advise** that the protection principle is an intrinsic part of the development of the MPA network. We consequently **advise** that the approach to realising the benefits of high levels of protection is reviewed in the light of the experience of the MCZ Project, existing literature evidence and the experience of other countries in the EU and globally, in order to establish a process that will realise these benefits [within the network].

Advice on conservation objectives

JNCC and Natural England published the Conservation Objective Guidance (COG) (Natural England & JNCC 2011a) to help the regional MCZ projects propose draft conservation objectives for the features in their recommended MCZs. We have reviewed these recommendations and consider that an alternative conservation objective may be more appropriate for some features. Our advice reviewed all information currently available. In some instances, JNCC or Natural England disagrees with the initial vulnerability assessments, due to gaining extra information or first-hand experience of a site. We also completed some of the vulnerability assessments which were provided incomplete in the final recommendations ([Annex 7](#) of the main advice package contains a full list of revised conservation objectives). Our advice is provided to Defra alongside the draft conservation objectives in the final recommendations. We provide an explanation where alternative conservation objectives are proposed.

JNCC and Natural England **advise** that for 61 features their conservation objectives are changed from what was recommended by the regional MCZ projects. Five of these changes refer to features located in the offshore area and the remaining 56 changes are to features in the inshore area. This is because some inshore features were not assessed and given a conservation objective by the regional MCZ projects, these have been completed. In addition, the majority of the advised changes in the inshore area are as a result of the assessment that standardised fisheries spatial data collated from the four regional projects. We advise that 39 change from maintain to recover and 22 change from recover to maintain. Overall, these amendments only represent changes to less than 5% of the 1,205 features recommended by the regional MCZ projects.

JNCC and Natural England **advise** that greater clarity is made in future documentation between the actual conservation objective (of achieving favourable (or reference) condition) and the action (maintain or recover) part of the objective. This should help clarify the difference between the objective which is set and the feature's condition that is subject to change over time.

A significant focus has been placed in the MCZ process on understanding if the recommended features are considered to be in unfavourable or favourable condition (and therefore require a 'recover' or 'maintain' objective). Whilst this is a useful exercise in informing the possible implications of the recommendations, JNCC and Natural England **advise** stakeholders and management authorities that a 'maintain' objective does not necessarily mean that no management of activities will be required. Conversely, a 'recover' objective does not necessarily mean that all activities will require significant management intervention to achieve favourable condition. JNCC and Natural England **advise** that the implications of any conservation objective are site specific and dependent on a number of variables, for example how the sensitivity of sub-features varies.

JNCC and Natural England **note** that the assessment of a feature's condition and whether it requires recovery to achieve its conservation objective (or not) is an ongoing process informed by best available evidence. The 'action' (recover/maintain) part of the objective is likely to change over time depending on periodic reviews of evidence on its ecological state, updated activities information and improvements in the definition of favourable condition. [Section 5.2](#) of the full advice document provides an assessment on the

present confidence JNCC and Natural England have in the condition of the features in recommended MCZs.

Advice on highly mobile species recommended by the regional MCZ projects

The MCAA allows for the designation of any species in MCZs. Defra policy guidance describes in more detail the links between highly mobile species and MCZs, particularly features that are listed on annexes of the Habitats and Birds Directives. Defra policy is clear about avoiding duplication with other legislation and that MCZs should only be proposed for habitats and species which are protected under the Habitats and Birds Directives in exceptional circumstances, where they are essential to meet the ecological coherence objectives of the wider MPA network. JNCC and Natural England provided additional guidance to the regional MCZ projects on the information they needed to provide to support proposals for features not required to meet the representativity guidelines in the ENG.

Regional stakeholder groups recommended some mobile features for designation in recommended MCZs that they felt should be protected. Natural England has assessed these proposals against set criteria using the evidence provided by the regional stakeholder groups.

Of the 29 mobile species features proposed in recommended MCZs that are not listed as being required for representativity in the ENG, Natural England **notes** that 21 may be suitable for designation as this is likely to provide conservation benefits to the species. These are:

- Razorbill and guillemot in Bideford to Foreland Point recommended MCZ
- Black guillemot in Cumbria Coast recommended MCZ
- Black bream in Kingmere recommended MCZ
- Balearic shearwater and basking shark in Land's End recommended MCZ
- Razorbill, puffin, manx shearwater and guillemot in Lundy recommended MCZ
- Guillemot, razorbill, kittiwake, fulmar and puffin in Padstow Bay and Surrounds recommended MCZ
- Black throated diver, great northern diver, slavian grebe, great crested grebe, red-necked grebe and guillemot in Torbay recommended MCZ.

Natural England **notes** that although many of the bird species are protected under the Birds Directive, in the terrestrial environment SSSIs are also notified for birds. Natural England also **notes** that in line with the proposed Habitats Regulations there may be scope to designate the habitats supporting these birds.

Advice on the available scientific evidence to support recommended MCZs

Advice on the evidence for the presence and extent of features

JNCC and Natural England assessed confidence in the evidence supporting the presence and extent of 1,205 features within the 127 recommended MCZs. Assessments of high, moderate, low and no confidence for both the presence and extent of features were carried out in line with technical protocol E. JNCC and Natural England used all data available during the assessment process to analyse confidence. We list all data used. [Section 5.3](#) contains a list of datasets that were not available to us at the time of the current evidence assessment due to confidentiality or accessibility issues, in addition to new datasets expected later in the year.

JNCC and Natural England assessed the evidence for the presence and extent of features within the recommended Marine Conservation Zones. The analysis of results show that at the level of the Defra marine area, we have greater confidence in feature presence than extent, with 41% (n=499) of assessments being high for presence against 16% (n=189) being high for extent. We gave 245 (20%)

features a score of moderate confidence for presence and 289 (24%) moderate confidence for extent. We gave 436 (36%) features low confidence for presence. We gave the majority of features, 680 (56%), low confidence for extent. We gave a score of 'no confidence' for both presence and extent to less than 5% of features.

Whilst ideally we would wish to have high confidence on the presence and extent of proposed features for designation, this is not always possible as the levels of confidence and availability of the evidence underpinning the recommendations is variable. The scale and accuracy of the evidence required to support the decisions at different stages of identification, designation and management are expected to be different as different levels of information will be required.

JNCC and Natural England **advise** that moderate and low confidence features should not necessarily prevent sites being progressed for designation, particularly if there is confidence on the presence of the feature, and a suitable rMCZ boundary can be delineated around the observed features. JNCC and Natural England **advise** that evidence on the extent of the feature might be more accurately determined after designation to support the development of management measures.

JNCC and Natural England **advise** that the evidence assessment presented here was based on the best available information at the time of the assessment. We advise that the information from datasets referred to in [Section 5.3](#) (i.e. datasets not used in the current evidence assessment) and any other new information should be incorporated into the assessments of confidence in the presence and extent of features in the future, and that any updates to the assessments should follow the agreed protocols, in order to improve the evidence base underpinning MCZ recommendations and designation.

JNCC and Natural England **advise** that site selection assessment documents should be updated to incorporate the latest information from the evidence assessment and to reflect the increased knowledge and understanding of the features and site.

Advice on the evidence for the condition of features

JNCC and Natural England **advise** that the vulnerability assessments that supported the development of the majority of draft conservation objectives only provide a proxy indication of the likely condition and therefore are limited in their ability to provide confidence in actual condition.

For all but 19 features JNCC and Natural England **advise** that there is a low confidence in the assessment of condition. We expected this low result because the process was designed to use best available evidence, which for all but one feature relied upon assessments of vulnerability. Detailed evidence on the condition of species and habitats is sparse except, perhaps within existing designated sites.

Only one site has features with a high confidence score for condition – The Canyons in the Finding Sanctuary project area. It was also the only site for which there was direct evidence on condition (that was assessed in this process). Eighteen features have a moderate confidence score for condition. Of those 18, two features are in the offshore area and the remaining 16 are inshore.

Our advice on changing conservation objectives for some features ([Section 4.2](#)) only resulted in altering the confidence in the condition of only one feature, which increased from low to moderate confidence.

Defra, JNCC and Natural England are working to improve confidence in feature condition. This is being achieved through verification surveys being undertaken in 2012 and through an additional data mining contract being undertaken by ABPmer (MB0116). JNCC and Natural England **advise** that this may provide additional evidence that could improve the confidence in feature condition.

Although a high or moderate level of confidence in condition is useful at the time of designation, JNCC and Natural England **advise** that low confidence in condition should not prevent features and sites being

progressed to consultation and designation. Knowledge on condition will inevitably improve over time as further evidence is collated (although this is likely to take many years). JNCC and Natural England **advise** that any delays in the progression of sites due to lack of knowledge on condition is likely to have negative consequences for features while evidence is being gathered.

Additional advice on evidence

The evidence assessment was based on a wide number and range of national and regionally collected datasets and constituted the best available evidence for assessing feature presence and extent at the time of the assessment. JNCC and Natural England used the evidence available to us until 16 March 2012 to complete our assessments.

The data listed here are expected to contribute to our knowledge and understanding of the features within each site and to consolidate the evidence base for the presence and extent of features put forward for designation in recommended MCZs. Sites where the evidence assessment indicated relatively low confidence have been targeted for work to improve the evidence base. JNCC, Natural England and partner organisations have been working on a survey programme for the data collection of additional evidence to support the designation of features/sites.

JNCC and Natural England **advise** that the information from the additional datasets identified here, and additional data sources identified in the Defra contract MB0116 entitled 'In-depth review of the ecological evidence supporting the recommended MCZs', should be incorporated into the evidence assessment in the future. Where possible, we **advise** that the additional datasets should be used to update the evidence assessment for inclusion in the formal consultation documentation.

Further surveys will be required in the future in order to establish further baseline data for recommended MCZs, for monitoring purposes and to inform their future management. We **advise** that both the private and the public sectors should be made aware of the need to develop and maintain sound evidence bases for effective planning and management of MPAs. This will facilitate data collection both opportunistically and through targeted studies/surveys.

MCZs were identified following the network design principle of best available evidence. Best available evidence is constantly evolving. The regional MCZ projects used the most relevant regionally collected and national data and the recommendations were based on best available scientific evidence at that time. JNCC and Natural England **advise** that further work is needed to collate metadata for regionally sourced data to inform the evidence assessment of the recommended features. JNCC and Natural England **advise** that future evidence will be quality assured before inclusion in site assessment work to keep the best available scientific evidence up to date.

We recognise that the confidence on the evidence available will not be assessed in isolation, but considered alongside the conservation value of that feature, the risk of damage or decline if the feature is not designated and any socio-economic consequences of designation. However, any delays in the progression of sites due to lack of knowledge on evidence could increase the risk of serious or irreversible damage to the feature.

Advice on prioritising MCZs for designation

JNCC and Natural England **note** that any prioritisation of recommended MCZs for designation can be based on a number of criteria, including for example, the evidence base, the levels of stakeholder support, the potential economic consequences, and the contribution towards meeting the UK's national and international commitments. We **advise** that the designation of recommended MCZs should be prioritised to ensure that those species and habitats identified under international and European obligations but not adequately represented in existing MPAs are represented within MCZs in the Defra marine area to enable the UK to meet its international commitments. Furthermore, we **suggest** that Defra may wish to consider

the value of a full prioritisation analysis against these criteria in order to understand how an individual rMCZ might contribute to each individual criterion.

In developing an ecologically coherent MPA network, JNCC and Natural England **suggest** that international and European obligations should be used to help prioritise rMCZs for designation. In particular the European Union Marine Strategy Framework Directive (EU MSFD), the Convention for the Protection of the marine environment of the North-East Atlantic (OSPAR Convention) and the Convention on Biological Diversity (CBD) all recommend that certain species and habitats are represented, replicated and protected in MPA networks. These species and habitats are broadly, if not directly, equivalent to the broad-scale habitats and Features of Conservation Importance (FOCI) listed in the ENG.

Many of the broad-scale habitats and FOCI listed in the ENG are already protected in our current MPAs (for example, some FOCI are designated features of SACs). As such, JNCC and Natural England **advise** that designation of rMCZs should be prioritised to ensure sufficient representation and replication of broad-scale habitats and FOCI that are not protected within existing MPAs in the Defra marine area.

Moreover, JNCC and Natural England **suggest** that the sufficient representation and replication of broad-scale habitats and FOCI should take account of finer-scale biogeographic variation at the scale of the Charting Progress 2 regional seas to build additional resilience into the network.

Finally, JNCC and Natural England **note** that establishing areas with high levels of protection for a range of benthic habitats will improve our understanding of the unimpacted state of these features to enable a better definition of reference conditions. Such an approach would provide a contribution to achieving some of the proposed targets for Good Environmental Status (GES) across our seas.

Advice on recommended MCZs most at risk

A feature within a MCZ is considered to be at risk of damage or deterioration if it is vulnerable to a pressure arising from human activities. A feature is considered vulnerable to a pressure when it is both sensitive to, and exposed to, that pressure. JNCC and Natural England assessed the risk to features using information from the vulnerability assessments undertaken by the regional MCZ projects and JNCC and Natural England staff.

Natural England **considers** that 33 inshore recommended Marine Conservation Zones are of higher risk of damage or deterioration and have a stronger case for earlier designation as MCZs.

Natural England **advises** that 11 of the 33 inshore recommended MCZs have an overall higher risk of damage or deterioration to non-sensitive and sensitive features. These sites are:

- South of Falmouth (FS 31)
- Tamar Estuary (FS 27)
- The Isles of Scilly (FS 35) – sub-site Bristows to the Stones (FS 35d)
- Chesil Beach and Stennis Ledges (FS 19)
- Hythe Bay (BS 26)
- Folkestone Pomerania (BS 11.4)
- Norris to Ryde (BS 19)
- Bembridge (BS 22)
- Kingmere (BS 16)
- Sefton Coast (ISCZ 13)
- Hilbre Island Group (ISCZ 14)

Natural England **advises** that the remaining 22 inshore recommended MCZs are only high risk because they contain highly sensitive features which are subject to one or more pressures causing damage or deterioration. These sites are:

- Cumbrian Coast (ISCZ 11)
- Poole Rocks (FS 14)
- Lundy rMCZ (FS 41)
- The Manacles (FS 32)
- Studland Bay (FS 15)
- Torbay (FS 22)
- Skerries Bank and Surrounds (FS 24)
- The Isles of Scilly (FS 35) (sub-sites Bishop to Crim (FS 35c), Gilstone to Gorregan (FS 35e), Hanjague to Deep Ledge (FS 35f), Lower Ridge to Innisvouls (FS 35h), Men a Vaur to White Island (FS 35i), Pennenis to Dry Ledge (FS 35j), Plympton to Spanish Ledge (FS 35k) , Smith Sound Tide Swept Channel (FS 35l),Whitsand and Looe Bay (FS 28)
- Padstow Bay (FS 38)
- Dover to Deal (BS 11.1)
- Dover to Folkstone (BS 11.2)
- Beachy Head West (BS 13.2)
- Beachy Head East (BS 13.1)
- Offshore Brighton (BS 14)
- Swale Estuary (BS 10)
- Yarmouth to Cowes (BS 23)
- Thames Estuary (BS 05)
- Stour and Orwell Estuaries (BS 02)
- The Needles (BS 20)
- The Medway Estuary (BS 06)
- Thanet Coast (BS 07)

JNCC **considers** that 15 fully offshore recommended MCZs are at higher risk of damage or deterioration and have a stronger case for earlier designation as MCZs. These sites are:

- The Canyons (FS 01)
- South-West Deeps (West) (FS 03)
- North-West of Jones Bank (FS 04)
- Greater Haig Fras (FS 05)
- East of Jones Bank (FS 06)
- South of Celtic Deep (FS 09)
- Celtic Deep (FS 10)
- East of Celtic Deep (FS 11)
- Western Channel (FS 12)
- South-East of Falmouth (FS 30)
- East of Haig Fras (FS 07)
- Compass Rose (NG 12)
- Slieve Na Griddle (ISCZ 07)
- South Rigg (ISCZ 06)
- Markham's Triangle (NG 07).

JNCC and Natural England **consider** that 11 joint rMCZs are at higher risk of damage or deterioration and have a stronger case for earlier designation as MCZs. These sites are:

- East Meridian (BS 29)
- East Meridian – Eastern Side (BS 29.2)
- Mud Hole (ISCZ 01)

- Cape Bank (FS 36)
- Holderness offshore (NG 09)
- Inner Bank (BS 31)
- South of the Isles of Scilly (FS 13)
- Orford Inshore (NG 01b)
- West of Walney (ISCZ 02)
- West of Walney (extension) (ISCZ 02a&b)
- South Dorset (FS 16)

JNCC and Natural England response to issues raised by the Science Advisory Panel

The Science Advisory Panel (SAP) also assessed the regional MCZ project recommendations publishing their report in November 2011⁵. Defra asked JNCC and Natural England for comments on the SAP's advice. Overall, we welcome the SAP's independent assessment of the regional MCZ projects final recommendations. We considered the issues and shortfalls they identified and offered a series of detailed responses in the full version of our advice. The following comments reflect some of the more generic issues.

We **support** the view that further work to address the remaining shortfalls and gaps towards the development of an ecologically coherent MPA network needs to be informed by a full assessment of the network principles at the biogeographical level, which incorporates all the new evidence gathered in the meantime. The work to address shortfalls and gaps should be done iteratively with Defra, the Devolved Administrations and Statutory Nature Conservation Bodies, working together with stakeholders as the MPA network develops and individual MCZs are designated.

We **agree** that the identification of new sites to deliver an ecologically coherent MPA network should consider the inclusion of areas of additional ecological importance to maximise their contribution to ecosystem function, biodiversity and/or resilience in the marine environment.

Given the relatively low level of pick-up of Geological Conservation Review sites and geological and geomorphological features, and of geological stakeholder involvement in the MCZ process, we **advise** that further consideration with the involvement of geological stakeholders is required in order to accurately assess the adequacy of the incorporation of geological and geomorphological features in the recommended MCZs.

We **advise** that further development/better understanding of feature sensitivity to pressures should be a priority area for future research. Such improved understanding would significantly assist future revisions to conservation objectives and the implementation of proportionate and effective management measures.

We **support** the view that a comprehensive activities monitoring scheme should be implemented within and adjacent to MCZs and that the responsibility for compliance monitoring (of activity against management measure) is clearly assigned to a Public Authority. Furthermore, we **agree** that the development and implementation of long-term marine biodiversity monitoring and surveillance strategies for MCZs that would help us to 1) understand natural change and isolate that from change brought about by pressures caused by human activities, and 2) test assumptions that management of activities is being effective, should be a priority.

We **advise** that marine biodiversity monitoring and surveillance strategies should be supported by and integrated with activity-specific monitoring undertaken by public authorities (for example the Department of Energy and Climate Change ensuring post-construction monitoring of wind farms or the Environment Agency assessing effects of pollution discharges).

⁵ The SAP report is available on www.defra.gov.uk/publications/2011/11/15/pb13680-sap-mcz-assessment/

We disagreed with the SAP's views on the lack of representativity of tide-swept channels in Finding Sanctuary and some of their general comments on conservation objectives (see [Section 4.3](#) for details).

We **note** that there were important differences between the SAP assessment and the evidence assessment in [Section 5.1](#) of our full advice. We used geographically referenced data displayed in a geographic information system to determine whether the information source actually supports the feature recommendation. Our assessment made the distinction between the data available to assess confidence in the a) presence and b) extent of a feature within a recommended MCZ, rather than the SAP's assessment of evidence at a site level that did not explicitly consider the recommended features within a recommended MCZ. Finally, our evidence assessment considers all the evidence available to us that may be held nationally or locally whereas the SAP focused only on the evidence used by the regional MCZ projects.

Despite these differences, we **advise** that the SAP and our assessments of the evidence base for recommended sites/features in recommended MCZs should be used together, and that any differences in results should be viewed as a reflection of the different methodologies adopted.

Advice on the contribution of MCZs to a network of Marine Protected Areas

National and international legislation and Defra policy guidance set the framework and objectives for the creation of a MPA network and for the identification and designation of MCZs and their conservation objectives. Whilst the MCAA does not refer directly to an ecologically coherent network due to the complexities of defining this in legislation, Defra has instead covered ecological coherence through policy guidance.

The ENG was developed in discussion with Defra to reflect government policy and the requirements of the MCAA. JNCC and Natural England **advise** that the ENG was based on the Convention for the Protection of the marine environment of the North-East Atlantic (OSPAR Convention) and other international guidance and complied with Defra policy. The approach to producing the guidelines was agreed by the then Minister for Marine and Natural Environment.

JNCC and Natural England produced the ENG as practical guidance using the best available evidence. Our approach was validated through independent peer review. It was extensively reviewed before publication both internally and externally and by Defra, the SAP and stakeholders with new research on connectivity, adequacy and viability that was commissioned by JNCC and Natural England, externally peer reviewed by international scientists and approved by the Defra, JNCC and Natural England Chief Scientists. We are **satisfied** that it meets our respective corporate standards for producing quality-assured advice.

The ENG has strong links to guidance from OSPAR on developing an ecologically coherent MPA network and identifying MPAs. The seven network design principles and five further practical considerations for the design of the network developed in the ENG were drawn from that Defra guidance which captures the themes of the design principles set out by OSPAR (OSPAR 2006-3). Interpretation of the design principles into practical guidance was evidence-based, but necessarily involved expert judgement where the science is still developing.

The COG is the formal guidance from JNCC and Natural England on the process for drafting conservation objectives for features within recommended MCZs. It was developed in discussion with Defra to reflect government policy and the requirements of the MCAA. The COG was based on good practice from the Natura 2000 process. It was reviewed internally, by other Statutory Nature Conservation Bodies, Defra and Defra Arm's Length Bodies and tested by the regional stakeholder groups. We are **satisfied** that it meets our respective corporate standards for producing quality-assured advice.

Where direct evidence on feature condition was not available, COG proposes an indirect approach via a vulnerability assessment to assess likely feature condition. Vulnerability assessments rely on an

understanding of feature sensitivity to particular activities and the COG acknowledges that prevailing scientific knowledge of such sensitivity is variable in quality and quantity. Similarly, our knowledge of the levels of exposure of features to activities at a feature, site level or even regional scale is also variable. This lack of knowledge further supports the earlier comments by the SAP and ourselves that a comprehensive activities monitoring programme is required.

We are confident that the ENG meets the requirements of sections 117, 118 and 123 of the MCAA. JNCC and Natural England **conclude** that a suite of MCZs that meet the design principles and other considerations of the ENG with conservation objectives based on the COG, should contribute to the conservation and network requirements of the MCAA as they apply to England's territorial waters and UK offshore waters of England, Wales and Northern Ireland. However, any compliance cannot be fully assessed until MCZs are designated, and considered alongside other MPAs in the Defra marine area.

We cannot assess how the network will contribute to the conservation or improvement of the marine environment until we know which recommended MCZs will be designated and how effectively management measures are implemented and thus whether conservation objectives are likely to be met. Monitoring of all MPAs will be essential to understand their contribution to conserving or improving the marine environment.

We **conclude** that the features protected in existing MPAs and recommended for protection in recommended MCZs do represent the range of features present in the Defra marine area. However, if certain habitat types not protected by existing MPAs (for example subtidal muds) are not designated in recommended MCZs then the network may no longer meet this condition.

JNCC and Natural England **consider** that the existing MPAs and recommended MCZs reflect that conservation of a feature may require the designation of more than one site. However, we **advise** that replication within biogeographic areas would be prudent to build resilience into the network to effectively conserve features.

Acknowledgements

The lead authors, Jen Ashworth and Cristina Vina-Herbon, wish to thank the following individuals for their work in producing this advice. Firstly the project managers Chris Davis and Jamie Davies and all of the other section authors: John Bleach, Hannah Carr, Nicola Church, Laura Cornick, Sophie Elliott, Rob Enever, Liam Fisher, Tom Hardy, Ana Jesus, Edward Mayhew, Fiona McNie, Jenny Oates, Alice Ramsay, Beth Stoker, Declan Tobin and Emma Verling.

Many other staff in JNCC and Natural England have been involved in writing this advice and have provided a great amount of input. We would like to thank Natural England local staff (Stephanie Ashman, Liz Bailey, Emma Brown, Laurence Browning, Ingrid Chudleigh, Hester Clack, Jenni Fincham, Angie Gall, Lisa Jenner, Mark Johnston, Emma Kelman, Martin Kerby, Andrew Knights, Louisa Knights, Paul Lane, Chris Lumb, Tom Manning, Sangeeta McNair, Jerrard Nicholson, Heidi Pardoe, Mel Parker, Ian Paterson, Rhiannon Pipkin, Jim Robinson, Catherine Scott, Christine Singfield, Joana Smith, Emma Thorpe, Helena Towers, Stephen Treby, Rachel Waldock, Calum Watt, Rob Whiteley, Liz Williams and Rachel Williams); JNCC specialists (Dan Bayley, Tom Blasdale, Andrew Eggett, Neil Ellis, Helen Ellwood, Neil Golding, Gareth Johnson, Kerstin Kober, Fionnuala McBreen, Johnny Murt, Jim Reid, Laura Robson, Mark Tasker and David Vaughan); and other Natural England specialists and managers (Stephen Ayliffe, Alex Banks, Lydia Barnes, Gavin Black, Anthony Bremner, Siobhan Browne, Malte Busch, James Bussell, Richard Caldow, Caroline Cotterell, Kevan Cook, Roger Covey, Clive Doarks, Dave Evans, Rachel Gorman, Andrew Graham, Ben Green, Matt Heard, Jan Maclennan, Fiona Neale, Jon Newman, Chris Pirie, Frances Randerson, Ian Saunders, Tammy Smalley, Wesley Smyth, Dee Stephens, Helen Stevens, Dylan Todd, Mike Wheatley, Sarah Wiggins, Richard Wright and Mike Young).

We thank Jon Davies and Angela Moffat who led the internal quality assurance process with further review by the Directors Steve Gibson, John Goold, Tim Hill and James Marsden. We are grateful to the Independent Expert Review Group, Defra and the MCZ Project Board for providing comments on the draft advice which improved it.

This document should be cited as:

JNCC and Natural England (2012) Marine Conservation Zone Project: JNCC and Natural England's advice to Defra on recommended Marine Conservation Zones. Peterborough and Sheffield.

Version control

Note. This sets out the version control for the compiled advice. Previously sections were separate and each section had its own version control tables which detail the internal and external quality assurance processes.

Build status:

Version	Date	Author	Reason/Comments
3.0	18 July	J Ashworth, C Vina-Herbon	Final version
2.5	16 Jul	J Ashworth, C Vina-Herbon	Updated to address final comments from copyeditors
2.4	12 July	J Ashworth, C Vina-Herbon	Updated to address comments from Natural England Board sub-group
2.3	11 July	J Ashworth, C Vina-Herbon	Final comments from JNCC
2.2	11 July	J Ashworth, C Vina-Herbon	Further updated with comments from Directors and copyeditors
2.1	09 Jul 12	J Ashworth, C Vina-Herbon	Updated to address comments from copyeditors
2.0	05 Jul 12	J Ashworth, C Vina-Herbon	Version for Natural England Board sub-group
1.5	05 Jul 12	J Ashworth, C Vina-Herbon	New summaries added and further additional edits made
1.4	04 Jul 12	J Ashworth, C Vina-Herbon	Updated by NE with additional comments
1.3	03 Jul 12	J Ashworth, C Vina-Herbon	Updated by JNCC with additional comments
1.2	03 Jul 12	J Ashworth, C Vina-Herbon	Updated with some comments from Directors
1.1	03 Jul 12	J Ashworth, C Vina-Herbon	Updated following copyedit
1.0	26 Jun 12	J Ashworth, C Vina-Herbon	Final draft for Director review and copyedit
0.1	25 Jun 12	J Ashworth, C Vina-Herbon	Compilation of previous separate sections

Distribution list:

Copy	Version	Issue Date	Issued To
Electronic	3.0	18 July 12	Secretary of State, Defra and placed on JNCC and Natural England websites
Electronic	2.0	05 Jul 12	Natural England Board sub-group
Electronic	1.0	26 Jun 12	J Davies, S Gibson, J Goold, T Hill, J Marsden, A Moffat for review and Director approval

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List of frequently used acronyms

AAEI – Area of additional ecological importance
 BSH – Broad-scale habitat
 CBD – Convention on Biological Diversity
 CCW – Countryside Council for Wales
 Cefas – Centre for Environment and Aquaculture Science
 COG – Conservation Objective Guidance
 DECC – Department of Energy and Climate Change
 Defra – Department for Environment, Food and Rural Affairs
 EA – Environment Agency
 EC – European Community
 EMS – European marine site
 ENG – Ecological Network Guidance
 EUNIS – European Nature Information System
 FOCI – Feature of Conservation Importance
 GCR – Geological Conservation Review
 GIS – Geographic Information System
 HOCl – Habitat of Conservation Importance
 IERG – Independent Expert Review Group
 IFCA – Inshore Fisheries and Conservation Authority
 IUCN – International Union for Conservation of Nature
 JNCC – Joint Nature Conservation Committee
 MALSF – Marine Aggregates Levy Sustainability Fund
 MBSMP – Marine Biodiversity Surveillance and Monitoring Programme
 MCAA – Marine and Coastal Access Act 2009
 MCZ – Marine Conservation Zone (rMCZ = recommended Marine Conservation Zone)
 MCZPB – Marine Conservation Zone Project Board
 MCZPTSG – Marine Conservation Zone Project Technical Support Group
 MESH – Mapping European Seabed Habitats project
 MMO – Marine Management Organisation
 MPA – Marine Protected Area
 MPATG – Marine Protected Areas Technical Group
 MPS – Marine Policy Statement
 MSFD – Marine Strategy Framework Directive (EU)
 NBN – National Biodiversity Network
 NCS – Named consultative stakeholder
 NE – Natural England
 NECR – Natural England Commissioned Reports
 Nm – Nautical mile
 OSPAR – The Convention for the Protection of the marine environment of the North-East Atlantic
 PA – Public Authority
 PDG – Project Delivery Guidance
 RA – Reference area (rRA = recommended reference area)
 REC – Regional Environmental Characterisation
 RP – Regional MCZ project
 RSG – Regional stakeholder group
 SAC – Special Area of Conservation (cSAC = candidate Special Area of Conservation; pSAC = possible Special Area of Conservation)
 SAD – Selection Assessment Documents

SAP – Science Advisory Panel
SNCB – Statutory Nature Conservation Body
SOCI – Species of Conservation Importance
SoS – Secretary of State
SPA – Special Protection Area
SSSI – Site of Special Scientific Interest
StAP – Stakeholder Advisory Panel (in Net Gain)
UKBAP – UK Biodiversity Action Plan
UKHO – UK Hydrographic Office
UKMMAS – UK Marine Monitoring and Assessment Strategy
VA – Vulnerability assessment
VMS – Vessel Monitoring System
WCMC – World Conservation Monitoring Centre
WCPA – World Commission on Protected Areas
WFD – Water Framework Directive

1. Introduction to the Marine Conservation Zone advice

- 1.1. This section introduces JNCC and Natural England's formal advice to Defra on the Marine Conservation Zones (MCZs) recommended by the regional MCZ projects. In particular it summarises the Joint Nature Conservation Committee (JNCC) and Natural England's role in relation to Marine Conservation Zones (MCZs) and summarises what Defra asked JNCC and Natural England to do to develop MCZ recommendations and what it required advice on.
- 1.2. The section describes how this advice document is structured and how JNCC and Natural England developed the advice including how we complied with Defra guidelines and internal standards.
- 1.3. Finally, this introduction describes briefly the MCZ Project and the regional MCZ projects, including their outputs and the roles JNCC and Natural England played in the projects.

1.1 JNCC and Natural England's roles in relation to Marine Conservation Zones

Advice to Defra

JNCC and Natural England have jointly written this advice. However, we have different geographical remits (with JNCC advising on nature conservation beyond 12 nautical miles and Natural England advising within 12 nautical miles). We therefore specify where advice to Defra is from both organisations or from one organisation. Where we use 'we' or 'us' we mean JNCC and Natural England.

Key messages

JNCC and Natural England have different geographical remits for providing advice to Defra.

JNCC and Natural England have several statutory and advisory roles in relation to Marine Conservation Zones (MCZs).

1.1.1. Aims of this section

1.1.1. This section will:

- Briefly outline the respective roles of JNCC and Natural England in all aspects of (MCZs)
- Outline the legal position with respect to our advice within this document and our separate geographical remits.

1.1.2. Geographic remits of JNCC and Natural England

1.1.2. JNCC discharges certain functions of the UK conservation bodies that these bodies may only discharge through the joint committee, as set out in the Natural Environment and Rural Communities Act 2006 Part 2. These functions include providing advice to the UK Government and Devolved Administrations on matters relating to nature conservation that arise: throughout the UK and that raise common issues; in part of the UK and affecting the UK interests; and outside the UK. For the purposes of this advice on MCZs this means that JNCC is responsible for advice in UK waters beyond 12nm and within the geographic area of MCZ advice.

1.1.3. Natural England is a Defra Arm's Length Body and advises Government on matters relating to nature conservation in England and in English territorial waters out to 12nm. Natural England's remit is defined in the Natural Environment and Rural Communities Act 2006 (as amended by the Marine and Coastal Access Act 2009 section 311(1) and (2)).

1.1.4. JNCC and Natural England have different geographical remits within the Defra marine area. **Figure 1** illustrates these.

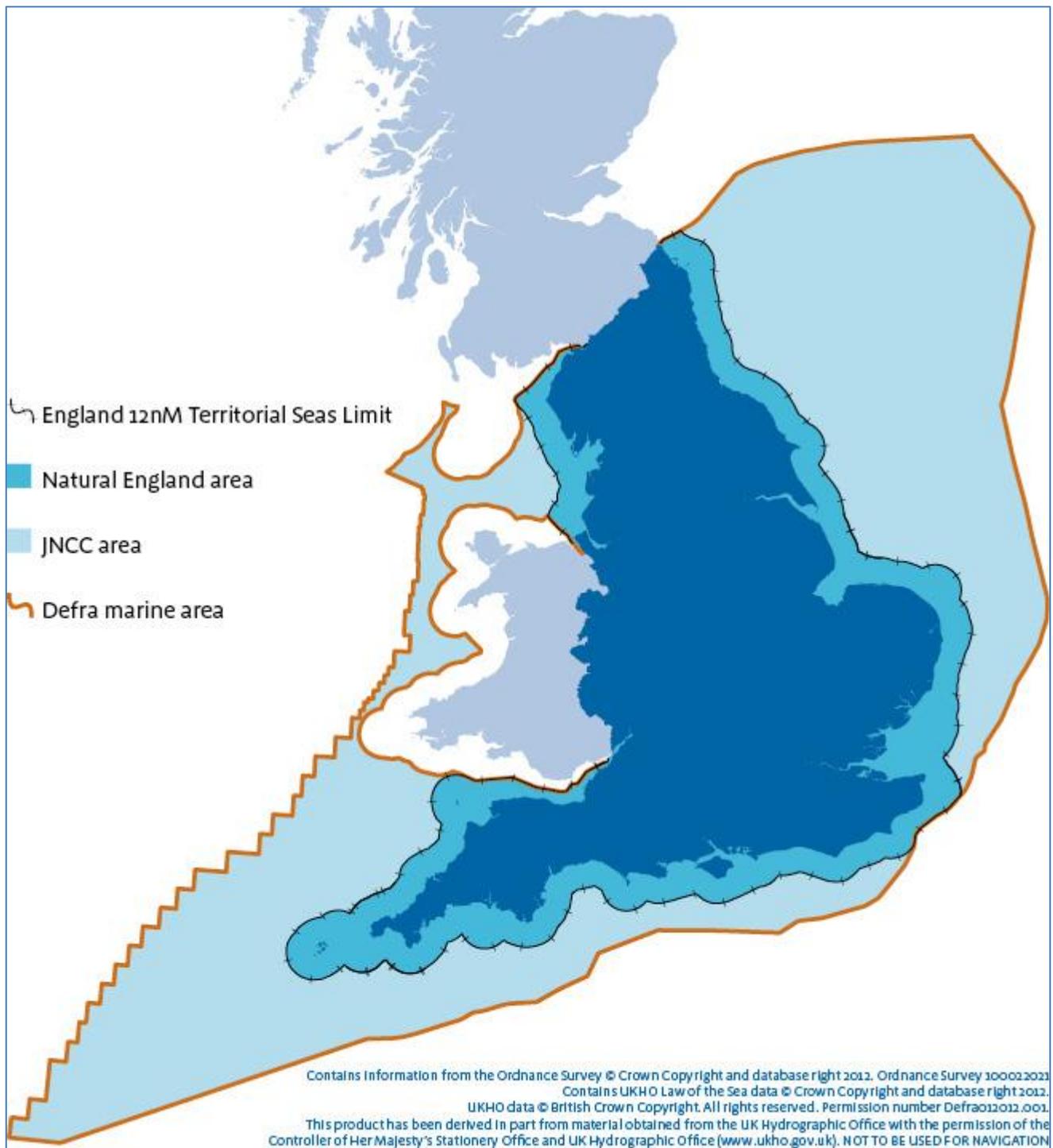


Figure 1 Geographic remits of JNCC and Natural England within the Defra marine area

1.1.3. Statutory and advisory roles in relation to Marine Conservation Zones

1.1.5. JNCC and Natural England have both statutory and advisory roles in the identification and delivery of MCZs.

- Statutory role: We have a statutory power under section 127 of the Marine and Coastal Access Act 2009 (MCAA) to provide advice and guidance as to:
 - (a) the matters which are capable of damaging or otherwise affecting any protected feature(s)
 - (b) the matters which are capable of affecting any ecological or geomorphological process on which the conservation of a protected feature(s) is (wholly or in part) dependent
 - (c) how any conservation objectives stated for an MCZ may be furthered, or how the achievement of any such objectives may be hindered

- (d) how the effect of any activity or activities on an MCZ(s) may be mitigated
- (e) which activities are, or are not, of equivalent environmental benefit (for the purposes of section 126(7)(c)) to any particular damage to the environment (within the meaning of that provision).
- This advice or guidance may be given either in relation to a particular MCZ or MCZs or generally to Public Authorities or more generally. We have a duty to provide this advice to Public Authorities if they request it.
- Advisory role. We also have a wider role in relation to MCZs:
 - Identification of MCZs: We were asked by Defra to run a stakeholder-led process to identify MCZs (see [Section 1.2](#))
 - Monitoring of MCZs: section 124(3) of the MCAA provides for the appropriate authority⁶ to direct JNCC and Natural England to monitor MCZs.
 - Reporting on MCZs and the Marine Protected Area (MPA) network: section 124 of the MCAA outlines the reporting requirements on the appropriate authority and we expect to provide advice to inform this. JNCC will assess the MPA network as a whole.

1.1.4. Legal position on this advice document

1.1.6. This document is JNCC and Natural England's advice on MCZs. It is our formal advice to Government on the recommendations from the regional MCZ projects. It has been jointly written by both organisations and signed off through the appropriate governance structures. Where the advice is specific to the remit of just one of the organisations (for example Natural England in waters inshore of 12nm and JNCC for waters beyond 12nm) then this is stated.

1.1.7. For rMCZs which straddle the 12nm boundary ('joint sites') and therefore where part of the site falls within each of JNCC and Natural England's geographic area, the preparation of the advice has been led by one organisation (see **Table 1**). However, the advice for these joint sites has been jointly agreed between JNCC and Natural England.

Table 1 Lead organisation for joint recommended Marine Conservation Zones

Site name (regional MCZ project)	Site code	Regional MCZ project area	Lead organisation
Cape Bank	rMCZ FS 36	Finding Sanctuary	Natural England
East Meridian	rMCZ BS 29	Balanced Seas	JNCC
East Meridian – Eastern side	rMCZ BS 29.2	Balanced Seas	JNCC
Farnes East	rMCZ NG 14	Net Gain	JNCC
Holderness Offshore	rMCZ NG 9	Net Gain	JNCC
Inner Bank	rMCZ BS 31	Balanced Seas	JNCC
Kentish Knock East	rMCZ BS 30	Balanced Seas	Natural England
Mud Hole	rMCZ ISCZ 1	Irish Sea Conservation Zones	JNCC
Offshore Overfalls	rMCZ BS 17	Balanced Seas	JNCC
Orford Inshore	rMCZ BS 1b	Balanced Seas	Natural England
South Dorset	rMCZ FS 16	Finding Sanctuary	Natural England
South of the Isles of Scilly	rMCZ FS 13	Finding Sanctuary	JNCC
Wash Approach	rMCZ NG 4	Net Gain	JNCC
West of Walney proposed co-location	rMCZ ISCZ 2	Irish Sea Conservation Zones	Natural England

⁶ In the MCZ Project area the appropriate authority is the Secretary of State.

1.2 The Marine Conservation Zone Project advice

Advice to Defra

*This formal advice contains our evidence-based assessment of stakeholders' recommendations developed through the regional Marine Conservation Zone (MCZ) projects. We **advise** Defra that this document complies with the candidate Special Area of Conservation (SAC) review recommendations, internal standards and published protocols.*

Key messages

As part of the MCZ Project, JNCC and Natural England were asked by Defra to provide advice on a series of topics. This advice document forms a package together with the MCZ recommendations and Impact Assessment.

1.2.1. Aims of this section:

1.2.1. This section will:

- Summarise what Defra asked JNCC and Natural England to do to develop MCZ recommendations and what it required advice on
- Introduce the MCZ advice package
- Describe how this advice document was developed and
- Outline how this advice document is structured.

1.2.2. The Marine Conservation Zone advice package

1.2.2. The MCZ Project advice package that will be submitted to Defra comprises the final regional MCZ project reports as submitted to JNCC and Natural England, draft Impact Assessment and our formal advice on the recommendations (this document). All these documents are provided to Defra to support the decisions the Minister will make on the designation of MCZs.

1.2.1.1 The regional MCZ project reports

1.2.3. Each regional MCZ project produced a final project report (Balanced Seas 2011a, Irish Sea Conservation Zones 2011, Lieberknecht, et al. 2011, Net Gain 2011a)⁷. These reports detail the governance and stakeholder processes of each project; the recommended MCZs (rMCZs) and conservation objectives; the evidence they used; the contribution of rMCZs towards meeting the Ecological Network Guidance (ENG); and other information the projects deemed relevant.

1.2.1.2 Impact Assessment

1.2.4. The Impact Assessment has been developed and is owned by the regional MCZ project economists with support from JNCC, Natural England and Defra experts to ensure it satisfies Government requirements. JNCC and Natural England will submit the Impact Assessment on behalf of the regional MCZ projects to Defra in July 2012 alongside this document.

1.2.5. The Impact Assessment:

- Summarises the information presented in the regional MCZ project recommendations
- Summarises the benefit of designating the recommended MCZs
- Identifies activities that would need to be managed in order for the proposed conservation objectives of the recommended sites to be achieved
- Identifies possible management measures
- Assesses the impact of designating the recommended MCZs on different sectors on a site-by-site basis, and a regional basis where appropriate

⁷ Lieberknecht *et al.* is the report from the Finding Sanctuary regional MCZ project.

- Provides information on the evidence used to identify the possible management measures and assess the impact of designation.

1.2.1.3 JNCC and Natural England advice on the MCZ recommendations

1.2.6. Our advice focuses on assessing the ecological implications of the recommendations and assessing the ecological evidence base for sites. It does not discuss in detail social and economic considerations of designating MCZs as this is outside of JNCC and Natural England's remit and will be covered in the Impact Assessment. However, Sections 3 and 4 do note how social and economic considerations were part of the process of identifying rMCZs and how these may have affected the outputs.

1.2.3. Request from Defra for advice

1.2.7. As identified in the Project Delivery Guidance (PDG) (Natural England and JNCC 2010), Natural England and JNCC, informed by the advice of the Science Advisory Panel (SAP), have a responsibility to advise Ministers on whether the MCZ recommendations contribute sufficiently to an ecologically coherent MPA network.

1.2.8. In July 2011 Defra provided specific direction to the regional MCZ projects, the SAP and JNCC and Natural England on what information they expected to be included in the regional MCZ project reports, the Impact Assessments, the SAP report and the advice from JNCC and Natural England.

1.2.9. Defra requested that our advice to Government should contain (this ask is summarised in Defra (2011b)):

- Advice on the creation of an ecologically coherent network of MPAs
- An overview of the regional MCZ project process used to identify possible MCZs
- JNCC and Natural England's view of the regional MCZ project recommendations
- An assessment of the most at risk sites/priority sites for protection
- An assessment of the scientific certainty of the regional MCZ project recommendations.

1.2.10. A project plan containing detailed structure of the advice was developed and shared with Defra. Delivery of our advice was managed through the MCZ Project Board.

1.2.4. How we developed our advice

1.2.11. JNCC and Natural England received the regional MCZ projects' final recommendations in September 2011. Using the direction provided by Defra we produced a project plan to deliver our advice. It became clear that we could not deliver the advice to the original deadline of November 2011 and meet the requirements of the independent review of the evidence process for selecting marine Special Areas of Conservation (known as the cSAC review) (Graham-Bryce 2011). On 15 November the Minister made a statement to Parliament that included extending the deadline for our advice to July 2012 (Hansard HC 2011).

1.2.12. Our updated delivery plan ensured that we could meet the requirements of the cSAC review, undertake a comprehensive assessment of the available evidence for features, and deliver evidence-based advice on the topics Defra requested.

1.2.5. How our advice complies with the recommendations of the cSAC review

1.2.13. The cSAC review came about following questions raised by some stakeholders about Natural England's marine evidence and advice. The review identified areas where some of Natural England's evidence handling processes could be improved or made more transparent. The review provided a series of recommendations to Natural England and Defra. Defra (Defra 2011a) and

Natural England (Natural England 2011a) have produced responses to the review outlining how they will comply with the recommendations.

1.2.14. JNCC and Natural England have ensured this advice complies with the cSAC review recommendations by:

- Being transparent about the scope of the advice. We have done this by publishing the scope on our websites (see <http://www.naturalengland.org.uk/ourwork/marine/mpa/mcz/default.aspx> and <http://jncc.defra.gov.uk/page-4882>)
- Following internal evidence and process standards⁸ including producing protocols on how we intended to conduct the assessments
 - We published draft protocols on our websites and invited comments from stakeholders
 - We held a stakeholder workshop to explain the protocols and discuss their content
 - The protocols were externally reviewed⁹ by the Marine Protected Areas Technical Group¹⁰, Defra, other Defra marine agencies and the Independent Expert Review Group¹¹¹²
- Final protocols along with comments and actions are published on our websites (see <http://www.naturalengland.org.uk/ourwork/marine/mpa/mcz/mczprojectadviceprotocols.aspx> or <http://jncc.defra.gov.uk/page-5999>)
- Ensuring appropriate quality assurance of the advice through several stages of internal review and by the Independent Expert Review Group appointed by Defra of the draft advice in May 2012. JNCC and Natural England will publish a response to the comments provided by the Independent Expert Review Group
- The focus of the quality assurance processes is to ensure that the advice complies with the published protocols.

1.2.6. MCZ advice protocols

1.2.15. JNCC and Natural England developed a series of protocols which describe the standards against which we developed our advice and undertook assessments. The protocols we developed are:

- A. Strategic protocol – the principles by which advice will be formulated (Natural England & JNCC 2012a)
- B. Quality control, assurance and peer review (Natural England & JNCC 2012b)
- C. Document style and format (Natural England & JNCC 2012c)
- D. Audit trail – version control and record keeping (Natural England & JNCC 2012d)
- E. Assessing the scientific certainty of sites and features (Natural England & JNCC 2012e)
- F. Assessment of the scientific certainty of conservation objectives (Natural England & JNCC 2012f)
- G. Assessment of the risk to features (not published at present) (Natural England & JNCC 2012g)
- H. Assessing the contribution of existing sites to the network (Natural England & JNCC 2012h).

1.2.16. In addition the ENG (Natural England and the Joint Nature Conservation Committee 2010) and Project Delivery Guidance (PDG) (Natural England and JNCC 2010) should also be considered protocols for how the MCZ Project was delivered.

⁸ The draft Natural England strategic and operational evidence standards can be seen at <http://www.naturalengland.org.uk/ourwork/research/default.aspx>

⁹ Protocols C and D were not externally reviewed due to their internal focus.

¹⁰ <http://jncc.defra.gov.uk/default.aspx?page=2418>.

¹¹ For more information on this group please contact panayiota.apolstolaki@defra.gsi.gov.uk.

¹² The IERG's key general comments on the protocols were that they welcomed our efforts to improve rigour and transparency. However, the advised greater consistency between each protocol both approaches and the use of terminology and the language needed to be clearer. Specific comments and actions can be seen on our webpages listed above.

- 1.2.17. The strategic protocol (Natural England & JNCC 2012a) underpins all of the other protocols. It sets out the key principles all staff will follow when producing our advice. For example, it outlines how we will comply with the cSAC review recommendations and meet internal standards, use the best available evidence when we undertake analyses; and identify and explain uncertainties in the evidence, the analysis and interpretation.
- 1.2.18. Protocol B (Natural England & JNCC 2012b) outlines how we will undertake internal and external quality assurance of the advice. Our internal quality assurance has included informal ongoing review of sections by the lead authors of the advice to the section leads and formal quality assurance by nominated persons in both JNCC and Natural England. In addition, the advice has been reviewed by our Marine Directors¹³ and by our respective non-executive structures (the Joint Nature Conservation Committee's Marine Protected Area Sub-Group and Natural England's Board).
- 1.2.19. JNCC and Natural England will publish an account of how we addressed the Independent Expert Review Group's review of our advice against the protocols.

1.2.7. How our advice will be used

- 1.2.20. Government will use our advice to help it determine which rMCZs it is minded to designate. To make its decisions Government will also draw on other sources of information such as the regional MCZ projects' Impact Assessments, the regional MCZ projects' final reports, the SAP report and the results of research projects including the in-depth review of the evidence base (project MB0116).

1.2.8. Structure of the advice

- 1.2.21. To ensure our advice is clear to readers we have structured it around the topics requested by Defra. The sections are outlined below.

- [Section 1](#) – Introduction to the MCZ Project and advice
This section outlines JNCC and Natural England's role in relation to MCZs ([Section 1.1](#)); introduces the MCZ advice package; and outlines how this advice document is structured ([Section 1.2](#)); and summarises the MCZ Project ([Section 1.3](#)).
- [Section 2](#) – The contribution of MCZs to legal and policy commitments on an ecologically coherent and well-managed network of MPAs
This section describes the legislative and policy drivers for MCZs including the relevant provisions in the MCAA ([Section 2.1](#)) and how they, associated Government policy documents and OSPAR guidance were interpreted in the ENG ([Section 2.2](#)) and Conservation Objective Guidance (COG) ([Section 2.3](#)). It assesses the ENG and COG against the provisions of the MCAA for MCZs ([Section 2.4](#)).
- [Section 3](#) – Overview of the MCZ process
This section describes how the MCZ Project process followed the initial PDG, including the regional MCZ project structures and governance, and regional stakeholder engagement ([Section 3.1](#)), as well as describing national and international stakeholder engagement ([Section 3.2](#)).
- [Section 4](#) – Analysis of regional MCZ project recommendations
This section assesses the regional MCZ project recommendations against the network design principles and guidelines in the ENG and provides further advice to support the Ministerial decision ([Section 4.1](#)). We provide advice on whether we think conservation objectives should be changed ([Section 4.2](#)). We provide responses to the comments made on the recommendations by the SAP ([Section 4.3](#)) and on highly mobile features proposed by regional MCZ projects that were not listed as features to be protected by MCZs in the ENG ([Section 4.4](#)).

¹³ And by Natural England's Chief Scientist (JNCC's Marine Director is a member of the Chief Scientists Group).

- [Section 5](#) – Advice on scientific certainty of rMCZs
This section contains our assessments of the scientific confidence we have in the presence and extent of features in rMCZs ([Section 5.1](#)) and their conservation objectives ([Section 5.2](#)). It signposts to an annex describing the evidence we used for the assessments ([Annex 9](#)) and describes the evidence we were not able to use ([Section 5.3](#)).
- [Section 6](#) – The most at risk sites and priorities for designation
The section outlines the MPA network obligations of international legislation and related policy commitments, explains how these link to MCZs, and suggests how Government should prioritise designation of recommended MCZs (rMCZs) to help meet these obligations ([Section 6.1](#)). This section reports on our analysis of the sensitivities and pressures on rMCZs and contains our advice on what are currently understood to be the rMCZs at greatest risk ([Section 6.2](#)).
- [Bibliography](#)
- Annexes.
The annexes provide further detail on methodologies and processes during the MCZ Project and the development of the advice and also more detailed results:
 - [Annex 1](#) - Summary of the quality assurance processes applied to the development of the MCZ Project Ecological Network Guidance and Conservation Objective Guidance
 - [Annex 2](#) – Quality assurance of national and regional data used by the regional MCZ projects
 - [Annex 3](#) – Summary of stakeholder meetings
 - [Annex 4](#) – Further details of the stakeholder engagement process
 - [Annex 5](#) – Detailed site assessments against the network design principles and ENG guidelines (linked to [Section 4.1](#))
 - [Annex 6](#) – Fisheries standardisation methodologies
 - [Annex 7](#) – Detailed assessment of conservation objectives (linked to [Sections 4.2](#) and [5.2](#))
 - [Annex 8](#) – Further details of the methodology for the assessment of feature presence and extent (linked to [Section 5.1](#))
 - [Annex 9](#) – Detailed results of the assessment of feature presence and extent (linked to [Section 5.1](#))
 - [Annex 10](#) – Detailed results of the assessment of risk to rMCZs.
- [Glossary](#) – Many technical terms are used in this advice document and the glossary defines these as used in this advice.

1.2.9. Communications and stakeholder engagement

1.2.22. We recognise that although the primary audience for this advice is Government, particularly Defra, many stakeholders, particularly those involved in the regional MCZ projects, will be interested in this document. The advice is JNCC and Natural England's formal advice to Government and is not being consulted on. Defra will consult on all 127 rMCZs in early 2013 (Defra 2011b). This will be the opportunity for stakeholders to raise any issues regarding the rMCZs, their evidence base and implications of designation. However, we would be happy to respond to any queries you have. Please contact: mczproject@jncc.gov.uk

1.2.23. JNCC and Natural England will publish supporting communications documents to enable greater understanding of the advice.

1.3 The Marine Conservation Zone Project

Key messages

Defra JNCC and Natural England established the Marine Conservation Zone (MCZ) Project in 2008 to involve stakeholders in developing MCZ recommendations. Four regional MCZ projects worked to recommend 127 MCZs in September 2011.

JNCC and Natural England played several roles in the MCZ Project including governance roles and as stakeholders.

The MCZ Project relied on the input of evidence at several stages to make recommendations for sites and provide advice to Defra. Evidence continues to be gathered to inform Defra's decision making.

1.3.1. Aims

1.3.1. This section will describe:

- the MCZ Project
- JNCC's and Natural England's roles and responsibilities and
- how evidence was used in the MCZ Project.

1.3.2. Introduction

1.3.2. During the development of the Marine and Coastal Access Act (MCAA) the Government made it clear that it wanted 'sea-users, environmental bodies and other interested parties (stakeholders) to have a prominent role in formulating advice to Government on the creation of MCZs' (Defra 2010b). Defra asked JNCC and Natural England to run a process to involve stakeholders to develop MCZ recommendations.

1.3.3. JNCC and Natural England established the MCZ Project in 2008 to develop stakeholder recommendations on:

- The location, size and shape of MCZs
- The features to be protected within the MCZs
- The conservation objectives of the MCZs and
- An assessment of environmental, economic and social impacts of the proposed regional MCZs, presenting the results in a draft formal Impact Assessment document.

1.3.4. Four independent regional MCZ projects covering the south-west (Finding Sanctuary), Irish Sea (Irish Sea Conservation Zones), North Sea (Net Gain) and south-east (Balanced Seas) were established to engage stakeholders to develop their recommendations. More detail on the background of the Project and expectations of what the regional MCZ project were asked to deliver can be found in the Project Delivery Guidance (PDG) to develop MCZs. [Section 3](#) of this document discusses the processes implemented within these projects to identify MCZs.

1.3.3. Recommendations of the regional MCZ projects

1.3.5. In September 2011 the regional MCZ projects delivered their recommendations to JNCC and Natural England (Balanced Seas 2011a, Irish Sea Conservation Zones 2011, Lieberknecht, et al. 2011, Net Gain 2011a). They recommended 127 MCZs (known as rMCZs, recommended Marine Conservation Zones) which are described in the table and map below (**Table 2** and **Figure 2**). Sixty-five areas of high levels of protection, known as reference areas, were also recommended – some of these within other MCZs or Marine Protected Areas (MPAs) and some as standalone MCZs. The rMCZs cover an area of 3,763,462 ha or approximately 15% of the Defra marine area and approximately 14% of English inshore waters.

Table 2 Recommended Marine Conservation Zones

	Number of rMCZs (some of which include reference areas)	Number of standalone reference areas	Total number of reference areas	Total number of recommended MCZs
Net Gain	18	8	13	26
Balanced Seas	30	1	25	31
Finding Sanctuary	45	6	13	51
ISCZ	15	4	14	19
Total	108	19	65	127

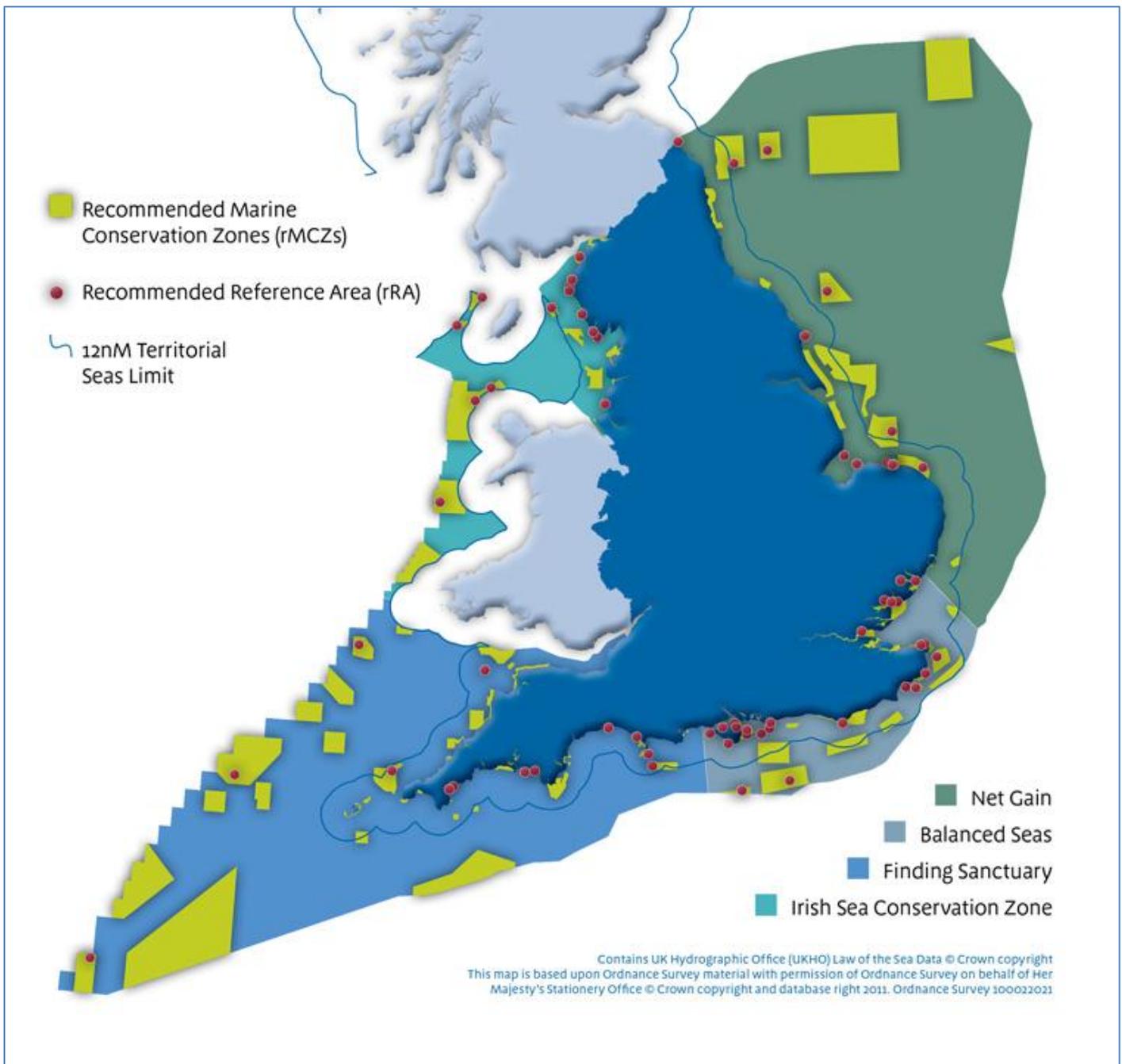


Figure 2 Location of recommended Marine Conservation Zones and reference areas

1.3.4. Roles and responsibilities of Natural England and JNCC in the MCZ Project

1.3.6. JNCC and Natural England are responsible for advising Defra on the designation of MCZs. To achieve this Natural England and JNCC jointly established the MCZ Project.

1.3.7. JNCC and Natural England have four roles and responsibilities in the delivery of the MCZ Project (for further details see (Natural England 2010a)).

- a. Project management – delivery of the MCZ Project and project management, including managing the Project’s implementation and budget, is the responsibility of JNCC and Natural England. Governance and oversight of the MCZ Project is delivered through a Project Board, with reporting lines through to Defra’s MPA Network Project Board and Marine Programme Board, and subject to published guidance which has been subject to robust quality assurance and external peer review

- b. Providing advice to Government – as the UK Government’s statutory advisers JNCC and Natural England provide evidence-based advice to inform the designation of MCZs that will contribute, together with other types of MPA, to fulfilling the Government’s commitment to establish an ecologically coherent and well-managed UK network of MPAs. JNCC will provide advice on waters offshore of 12nm and Natural England on waters inshore of 12nm. For rMCZs that cross the 12nm boundary, one agency led on producing the advice but we consider it is joint advice
- c. Engaging as a stakeholder in the development of MCZ recommendations – JNCC and Natural England had two distinctive roles within the stakeholder groups on which they sat:
 - i. Representatives of one of the national project sponsors and
 - ii. Stakeholders in our own right, to provide advice to deliver the best outcome for nature conservation, geological or geomorphological interest, recreation and access and work with other stakeholders to find common solutions
- d. Building support and understanding of the MCZ Project – JNCC and Natural England staff have built support and understanding of the MCZ Project, and how it relates to the Government’s wider MPA Strategy, amongst sea-users and interest groups through meetings and the production of information materials.

1.3.5. Evidence flows through the MCZ Project

- 1.3.8. The MCZ Project aimed to use the best available evidence to identify MCZs in line with Defra policy (Defra 2010b). Evidence was provided to the regional MCZ projects by Defra, Natural England, JNCC and other data holders through a variety of means. **Figure 3** describes the flow of ecological evidence through the MCZ Project. The regional MCZ project reports detail the evidence they used and [Annex 2](#) describes the quality assurance of these data (Balanced Seas 2011a, Irish Sea Conservation Zones 2011, Lieberknecht, et al. 2011, Net Gain 2011a).
- 1.3.9. The Science Advisory Panel (SAP) assessed the evidence described in the regional MCZ project reports along with other peer reviewed and grey literature and scored the level of evidence for each rMCZ (Science Advisory Panel 2011b, 2011a).
- 1.3.10. Since the regional MCZ projects ended they have provided their evidence to JNCC and Natural England as part of a data handover process. JNCC and Natural England have used these data in combination with other data available to us to assess confidence in the presence, extent and condition of proposed features in rMCZs (see Sections [5.1](#) and [5.2](#) and Annexes [2](#) and [9](#)). We used data available to us up to the 16 March 2012.
- 1.3.11. Following the Ministerial Statement in November 2011 (Hansard HC 2011), Defra has commissioned several projects to further increase the evidence base for MCZs. It commissioned Cefas to lead a partnership with the Environment Agency, JNCC and Natural England to undertake survey work of prioritised rMCZs (Defra contract MB0120). In addition Defra has contracted ABPmer to lead a project (MB0116) to undertake an in-depth review of the evidence for rMCZs. This research, along with the outputs of the recent surveys, the JNCC and Natural England evidence assessments and the SAP report will be used by Defra to inform its decisions on which rMCZs to progress to designation.

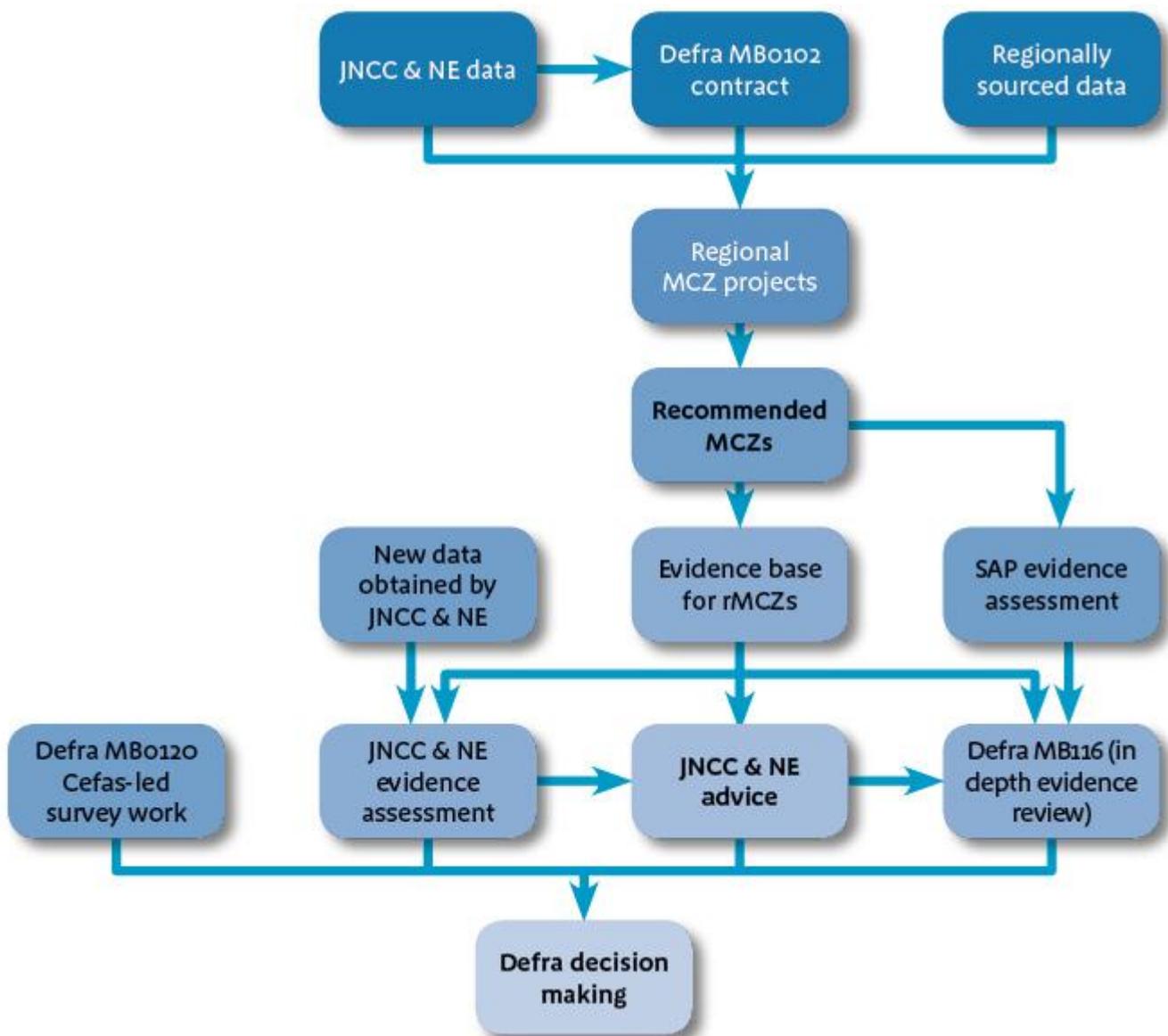


Figure 3 Evidence flows through the Marine Conservation Zone Project

2 How Marine Conservation Zones may contribute to create an ecologically coherent network of Marine Protected Areas and the aims of the Marine and Coastal Access Act

- 2.1 Defra requested JNCC and Natural England provide advice on the use of Marine Conservation Zones (MCZs) to create an ecologically coherent network of Marine Protected Areas (MPAs). It specified that this advice should include:
- a summary of how the principles of creating an ecologically coherent network have been applied by JNCC and Natural England in the Ecological Network Guidance (ENG) (Natural England and the Joint Nature Conservation Committee 2010) and Conservation Objective Guidance (COG) (Natural England & JNCC 2011a);
 - an assessment of how this guidance and the Regional Project recommendations meet the requirements of the Marine and Coastal Access Act (MCAA) (section 123); and
 - a summary of the quality assurance processes applied in developing the ENG and COG.
- 2.2 To meet this request [Section 2.1](#) describes national and international legislation and Defra policy guidance concerned with the creation of a MPA network and specifically the MCZ provisions in the MCAA.
- 2.3 [Section 2.2](#) describes how the principles of an ecologically coherent MPA network were interpreted in the ENG and [Section 2.3](#) describes the requirement for the COG. [Section 2.4](#) assesses the ENG and COG against the provisions of the MCAA for MCZs.
- 2.4 The quality assurance processes applied in developing the ENG and COG are described in [Annex 1](#).

2.1 Legislative and policy drivers for Marine Protected Areas

Key messages

National and international legislation and Defra policy guidance set the framework and objectives for the creation of a Marine Protected Area (MPA) network and for the identification and designation of Marine Conservation Zones (MCZs).

2.1.1. Aims of this section

2.1.1. This section will:

- Describe the provisions of the Marine and Coastal Access Act 2009 (MCAA)
- Describe the international drivers for the designation of MPAs
- Provide an overview of the Defra policy guidance that sets the framework for creating a network of MPAs and for identifying and designating MCZs.

2.1.2. Introduction

2.1.2. The MCZ Project was established to identify MCZs to meet Government policy commitments, the MCAA requirements and Defra network design principles (see **Figure 4**) (HM Government 2009c, HM Government 2011, Defra 2010a, Defra 2010b). The above documents lay the foundations for the Ecological Network Guidance (ENG) (Natural England and the Joint Nature Conservation Committee 2010) and Conservation Objective Guidance (COG) (Natural England & JNCC 2011a) and provide important context for the approach taken to the delivery of the MCZ Project and identification of MCZs.

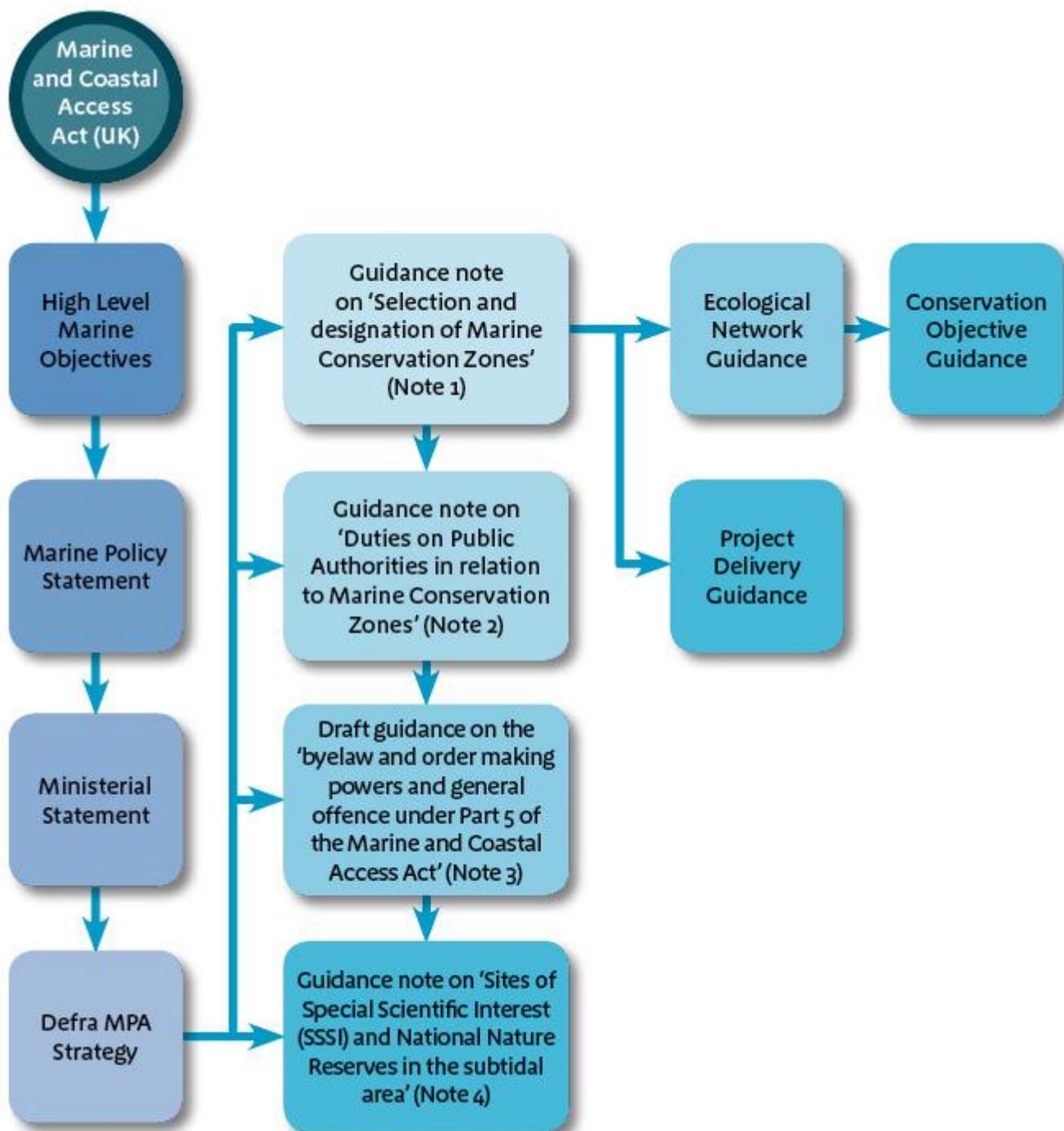


Figure 4 Government policy and legislative requirements relating to the Marine Protected Area network in the Defra marine area

2.1.3. National legislation

2.1.3.1 Marine and Coastal Access Act 2009

2.1.3. Part 5 of the MCAA (HM Government 2009a) provides the legislative framework for the designation of MCZs in England, Wales and UK offshore waters¹⁴. The Act establishes a duty to *designate MCZs so as to contribute to a UK network of marine sites, MCZs complementing the Natura 2000 network of European sites, Sites of Special Scientific Interest and wetlands protected under the Ramsar Convention* (HM Government 2009b) (**Figure 5**).

¹⁴ In offshore waters adjacent to Scotland MCZs will be referred to as Marine Protected Areas.

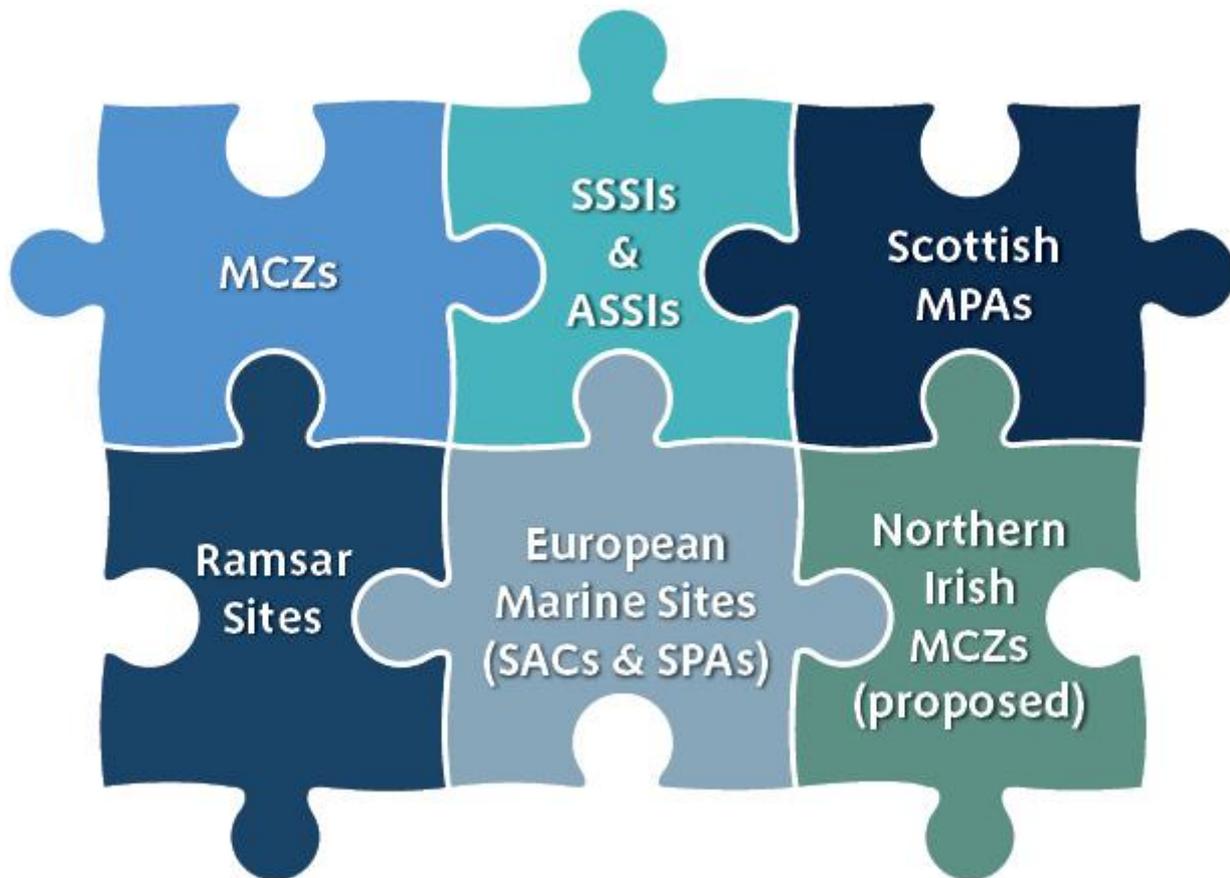


Figure 5 Types of Marine Protected Area that make up the UK network

2.1.4. In practice, this means that MCZs are a component of the MPA network alongside the other types of MPA listed in **paragraph 2.1.9** below and the establishment of MCZs will ensure the creation of a network by filling any gaps in meeting the ENG beyond existing MPAs.

Marine Conservation Zones

2.1.5. The key sections of the Act establishing the scope and role of MCZs are section 117, which identifies what MCZs can be designated for, and section 123 which describes how MCZs contribute to a network of conservation sites.

Section 117 – Grounds for designation of Marine Conservation Zones

2.1.6. Section 117(1) establishes that Government can designate MCZs through an order for the purposes of conserving marine flora or fauna, marine habitats or types of marine habitat and features of geological or geomorphological interest. Section 117(2) sets out that the order must state the protected feature or features and the conservation objectives of an MCZ.

2.1.7. Whilst the Act does not provide specific lists of species or habitats that could be included in MCZs, it does make clear that marine flora or fauna includes rare and threatened species (section 117(4)), and also that the conservation of diversity applies to other features whether or not these are rare or threatened (section 117(5)). The Act defines conserving a feature as *assisting in its conservation and enabling or facilitating its recovery or increase* (Section 117(6)).

Section 123 – Creation of network of conservation sites

2.1.8. Section 123 provides the context for the contribution of MCZs to a network of Marine Protected Areas (MPAs) and sets out a series of conditions that have to be met by the network (section 123(3)):

- That the network contributes to the conservation or improvement of the marine environment in the UK marine area
- That the features which are protected by the sites comprised in the network represent the range of features present in the UK marine area
- That the designation of sites comprised in the network reflects the fact that the conservation of a feature may require the designation of more than one site (section 123(3)).

2.1.9. In the UK marine area in addition to MCZs the MPA network will comprise the following types of conservation site (see **Figure 5**):

- European Marine Sites (Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)), and the marine components of Sites of Special Scientific Interest (SSSIs)¹⁵ and Ramsar sites (MCAA sections 123(2) and (4))
- Nature Conservation MPAs, which must be designated by Scottish Ministers to contribute to a network of conservation sites in the UK marine area, according to the Marine (Scotland) Act (2010) (The Scottish Government 2010). The Scottish MPA Project¹⁶ is identifying Nature Conservation MPAs in Scottish waters and will provide recommendations to Scottish Ministers at the end of 2012
- MCZs that may be designated within the Northern Ireland inshore region. The Northern Ireland Marine Bill (Northern Ireland Assembly 2012) contains provisions for designating MCZs and is currently going through the legislative process of the Northern Ireland Assembly.

2.1.4. International drivers

2.1.10. As well as making provision for a series of conservation sites at sea, the MCAA helps the Government fulfil the UK's EU and international commitments including the:

- EU Marine Strategy Framework Directive (MSFD) (European Union 2008) which has an overarching goal of achieving Good Environmental Status (GES) across Europe's marine environment by 2020. The Directive sets out specific measures for the establishment of MPAs and MPA networks to be put in place by 2016 (Article 13(4))¹⁷
- OSPAR Convention for the Protection of the marine environment of the North-East Atlantic (1992) which sets out requirements to establish a network of MPAs in the OSPAR maritime area. The latest guidance from the Commission recommends that the network of MPAs in the North-East Atlantic should be ecologically coherent by 2012 and well managed by 2016 (OSPAR 2010)
- Convention on Biological Diversity (CBD) (1993) which sets an objective of establishing representative networks of MPAs globally by 2012. More recently, this has been re-stated as an objective to conserve 10% of coastal and marine areas through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other

¹⁵ Sites of Special Scientific Interest with marine components include Sites of Special Scientific Interest covering intertidal areas up to mean high water spring tide level and Sites of Special Scientific Interest which extend into the sub-tidal area.

¹⁶ For more information about the Scottish MPA Project see <http://jncc.defra.gov.uk/page-5469>.

¹⁷ Article 13 (Programmes of measures) states *Programmes of measures established pursuant to this Article shall include spatial protection measures, contributing to coherent and representative networks of marine protected areas, adequately covering the diversity of the constituent ecosystems.*

effective area-based conservation measures by 2020 (Aichi Biodiversity Target number 11) (CBD 2010b).

2.1.5. Policy guidance

Ministerial statement – the creation of a network of Marine Protected Areas

2.1.11. In March 2010 the Minister, fulfilling his duty under section 123 (6) of the MCAA to ‘prepare a statement setting out such principles relating to achievement of the objectives in subsection (2) as the authority intends to follow when complying with the duty imposed by subsection (1)’ laid a statement (Defra 2010a) before Parliament setting out seven principles that should guide the design of the MPA network. The principles are based on work to define an ecologically coherent network carried out through the OSPAR Convention process (and are described in more detail in [Section 2.2.2](#)).

2.1.12. The statement confirms JNCC and Natural England would be publishing technical guidance on implementing ecological coherence and that decisions on the network should be based on best available evidence from a range of sources, acknowledging that some evidence may be uncertain or incomplete.

2.1.13. In May 2010 the Coalition Government confirmed its commitment to implementation of the conservation provisions of the MCAA ‘we will take forward the Marine and Coastal Access Act and ensure that its conservation measures are implemented effectively’ (HM Government 2010).

Guidance on selection and designation of Marine Conservation Zones (Guidance Note 1)

2.1.14. In May 2009, the Government produced more detailed guidance (final version published as Defra (2010b)) specifically for the selection and designation of MCZs. In addition to the principles in the Ministerial Statement the Guidance provides greater detail on:

- The principles for stakeholder engagement
- The geographical scope of the four regional project areas
- Principles and additional considerations for the identification and selection of MCZs
- Conservation objective selection.

2.2 Summary of how the principles of creating an ecologically coherent network have been applied by JNCC and Natural England in the Ecological Network Guidance

Key messages

The Ecological Network Guidance (ENG) was developed in discussion with Defra to reflect Government policy and the requirements of the Marine and Coastal Access Act 2009 (MCAA).

Whilst the MCAA does not refer directly to an ecologically coherent network due to the complexities of defining this in legislation, Defra has instead covered ecological coherence through policy guidance.

The ENG was produced by JNCC and Natural England as practical guidance using the best available evidence and the approach was validated through independent peer review.

The ENG has strong links to guidance of the OSPAR Convention for the Protection of the marine environment of the North-East Atlantic (OSPAR) on developing an ecologically coherent Marine Protected Area network and identifying Marine Protected Areas.

The seven network design principles and five further practical considerations for the design of the network developed in the ENG were drawn from that Defra guidance which captures the themes of the design principles of the OSPAR Convention for an ecologically coherent network.

Interpretation of the design principles into practical guidance was evidence-based and also involved expert judgement where the scientific knowledge is still developing.

2.2.1 Aims of this section

2.2.1. This section will describe:

- How the provisions of the MCAA and associated Government policy documents were interpreted in the ENG and
- Describe how the network design principles are linked to guidance of the Convention for the Protection of the marine environment of the North-East Atlantic (OSPAR).

2.2.1. Introduction

2.2.2. Defra tasked JNCC and Natural England to further interpret the policy guidance and provide detailed scientific advice for the regional Marine Conservation Zone (MCZ) projects. The ENG (Natural England and the Joint Nature Conservation Committee 2010) is Natural England and JNCC's formal advice on how to meet the requirements of the MCAA (HM Government 2009a) and Defra policy (Defra 2010b). It describes how to identify MCZs in the Defra marine area to contribute towards an ecologically coherent Marine Protected Area (MPA) network by using the seven network design principles and additional considerations. Furthermore, it provided the regional stakeholder groups with specific guidelines to identify sites that will protect a range of marine biodiversity found within the regional MCZ project areas and contribute to an ecologically coherent MPA network.

2.2.3. JNCC and Natural England developed the ENG using the best available evidence, including recent research, expertise from their own specialist staff and evidence from the wider scientific

community¹⁸. The guidelines within the ENG were written to be practical rather than theoretical, and applied based on our existing knowledge of the marine environment.

2.2.2. Network design principles

2.2.4. The seven network design principles outlined in Defra Guidance Note 1 (Defra 2010b) and the first Ministerial Statement (Defra 2010a) are based on guidance agreed by the OSPAR Commission (OSPAR 2006-3). The OSPAR Commission (2003-7) states that *the components of the OSPAR Network will, individually and collectively aim to:*

- protect, conserve and restore species, habitats and ecological processes which are adversely affected as a result of human activities;
- prevent degradation of and damage to species, habitats and ecological processes, following the precautionary principle;
- protect and conserve areas that best represent the range of species, habitats and ecological processes in the OSPAR maritime area.

2.2.5. The OSPAR Guidance document (OSPAR 2006-3) identifies that *a network is characterised by a coherence in purpose and by the connections between its constituent parts. Networks can also be designed to be resilient to changing conditions. The following points can be identified as contributing to coherence:*

- A network's constituent parts should firstly be identified on the basis of criteria which aim to support the purpose of the network.
- The development of an ecologically coherent network of MPAs should take account of the relationships and interactions between marine species and their environment both in the establishment of its purpose and in the criteria by which the constituent elements are identified.
- A functioning ecologically coherent network of MPAs should interact with, and support, the wider environment as well as other MPAs although this is dependent on appropriate management to support good ecosystem health and function within and outside the MPAs.

2.2.6. OSPAR guidance on developing an ecologically coherent MPA network sets out 13 principles that are designed to assist in interpreting the concept of an ecologically coherent MPA network (OSPAR 2006-3). The guidance and principles are grouped around several themes and sub-themes:

- Features
 - Feature types
 - Proportions
- Representativity
- Biogeographic representation
- Characterisation of the marine environment
 - Connectivity
- Resilience
 - Replication
 - Size of site
- Management

2.2.7. The MCAA does not specifically refer to an ecologically coherent MPA network or the OSPAR design principles. The conditions in section 123 reflect the OSPAR principles of representativity, feature types and replication. Due to the complexity of trying to define 'ecologically coherent network' in legislation, it was decided to cover ecological coherence and the OSPAR principles in policy through guidance - Defra Guidance Note 1 (Defra 2010b) and a Ministerial Statement (Defra

¹⁸ A full reference list is provided in the Ecological Network Guidance.

2010a). The Defra MPA network design principles (Defra 2010b) capture the themes of the OSPAR principles and their definitions are set out below:

- Representativity – the MPA network should represent the range of marine habitats and species through protecting all major habitat types and associated biological communities present in our marine area
- Replication – all major habitats should be replicated and distributed throughout the network. The amount of replication will depend on the extent and distribution of features within seas
- Viability – the MPA network should incorporate self-sustaining, geographically dispersed component sites of sufficient size to ensure species and habitat persistence through natural cycles of variation
- Adequacy – the MPA network should be of adequate size to deliver its ecological objectives and ensure the ecological viability and integrity of populations, species and communities (the proportion of each feature included within the MPA network should be sufficient to enable its long-term protection and/or recovery)
- Connectivity – the MPA network should seek to maximise and enhance the linkages among individual MPAs using the best current science. For certain species this will mean that sites should be distributed in a manner to ensure protection at different stages in their life cycles
- Protection – the MPA network is likely to include a range of protection levels, ranging from highly protected sites or parts of sites where no extractive, depositional or other damaging activities are allowed, to areas with only minimal restrictions on activities that are needed to protect the features
- Best available evidence – network design should be based on the best information currently available. Lack of full scientific certainty should not be a reason for postponing proportionate decisions on site selection.

2.2.3. The contribution of existing MPAs in meeting the network design principles

2.2.8. The network design principles apply to the MPA network (specifically the part in Defra waters). The UK network comprises several different types of MPA (for further details see (JNCC 2010a) and **Figure 5**).

2.2.9. The ability to designate MCZs was created to meet any gaps in protecting the marine environment and was not intended to duplicate existing protection. As the MCZ Project started with many MPAs already designated, it was important for JNCC, Natural England, Government and stakeholders to understand how these existing MPAs contributed to meeting the network design principles.

2.2.10. JNCC and Natural England assessed how well existing MPAs contributed to the principles of representativity, replication, adequacy and connectivity. For details of the process (sometimes referred to as the gap analysis) see protocol H (Natural England & JNCC 2012h). We gave the results to the regional MCZ projects to help them understand the baseline of existing MPAs and the gaps that they needed to fill by identifying MCZs. How the regional MCZ projects used these data is described in their final reports (Balanced Seas 2011a, Irish Sea Conservation Zones 2011, Lieberknecht, et al. 2011, Net Gain 2011a) and in [Section 4.1](#) of this advice.

2.2.4. Further considerations in identifying MCZs

2.2.11. The OSPAR Commission and Defra describe a series of ecological and practical considerations to help identify MPAs (or MCZs in Defra Guidance) (Defra 2010b, OSPAR 2003-7) which are reflected in guidelines covered in section 1.3.3 (p19) of the ENG (Natural England and the Joint Nature Conservation Committee 2010). The further considerations which are included as additional guidelines in the ENG are:

- Areas of additional ecological importance

- Impacts and feature vulnerability
- Scientific value
- MCZ boundaries and
- Geological and geomorphological features of interest.

2.2.5. Producing the guidelines in the Ecological Network Guidance

- 2.2.12. We followed the network design principle of using best available evidence to identify MCZs in drafting the ENG, and in interpreting the principles and guidelines. These evidence-based interpretations reflected our scientific understanding of the marine environment at the time. Such understanding is continually evolving and improving with new research. Where existing evidence may be lacking or incomplete, international best practice was reviewed, or alternatively we developed heuristic methods (rules of thumb) derived from scientific knowledge and understanding.
- 2.2.13. Whilst the principles and concepts which underpin an ecologically coherent network are well recognised and supported by the scientific community (CBD 2008, GBRMPA 2002, IUCN-WCPA 2008, OSPAR 2006-3, OSPAR 2003-7, SCBD 2004, UNEP-WCMC 2008), we recognised that the detailed science for interpreting these principles is still developing, and there are still many aspects of our marine environment which we are yet to fully understand. As such, the science could only take the interpretation of these principles so far and it was necessary to use expert judgement to allow full interpretation of the network design principles and ensure that the policy goals and objectives of the network (as outlined in legislation and policy guidance) were addressed. To validate our approach, we presented our proposed interpretation and description of the network design principles to the then Minister for Marine and Natural Environment, had regular discussions with Defra policy officials and provided frequent briefings to the MCZ Project Board (for details on the quality assurance process for the ENG see [Annex 1](#)).
- 2.2.14. As well as guidelines being evidence-driven and policy-proofed they needed to be deliverable within the timescale of the MCZ Project and be suitable for use in the stakeholder process. Some of the principles were more suitable for quantitative guidelines while semi-quantitative or qualitative guidelines were more appropriate for others. Natural England and JNCC commissioned new research to better define the principles of replication, adequacy, viability and connectivity (Hill, et al. 2010, Roberts, et al. 2010, Rondinini 2011a, 2011b, Jackson, Hiscock, et al. 2009).
- 2.2.15. The writing of the ENG was iterative with several reviews including from the MCZ Science Advisory Panel and wider stakeholders (see [Annex 1](#) for details). In addition, the research on connectivity, viability and adequacy was subject to external review coordinated by Defra's Chief Scientific Adviser.
- 2.2.16. We structured each section of the ENG to make our reasoning and evidence base clear to stakeholders who used the document.

2.3 Requirement for the Conservation Objective Guidance

Key messages

The Conservation Objective Guidance is the formal guidance from JNCC and Natural England on the process for drafting conservation objectives for features within recommended Marine Conservation Zones (rMCZs).

The Conservation Objective Guidance was developed in discussion with Defra to reflect Government policy and the requirements of the Marine and Coastal Access Act 2009 (MCAA).

Where direct evidence on feature condition was not available, the approach adopted in the Conservation Objective Guidance used an indirect approach via a vulnerability assessment to assess likely feature condition.

Vulnerability assessments rely on an understanding of feature sensitivity to particular activities and the Conservation Objective Guidance acknowledges that our knowledge of this sensitivity for features is variable.

Similarly our knowledge of the levels of exposure of features to activities is also variable.

The Conservation Objective Guidance acknowledges that further evidence may be required to increase confidence in conservation objectives developed using the Conservation Objective Guidance.

2.3.1 Aims of this section

2.3.1. This section will describe how the provisions of the Marine and Coastal Access Act 2009 (MCAA) and associated Government policy documents were interpreted in the Conservation Objective Guidance (COG).

2.3.2 Introduction

2.3.2. The Defra network design principle 'Protection' states that the Marine Protected Area (MPA) network is likely to include a range of protection levels ranging from highly protected sites to areas with only minimal restrictions on activities that are needed to protect the features (Defra 2010b). The process of setting of conservation objectives enables the identification of activities likely to require management in order to reduce or remove human-derived pressures that potentially damage or lead to deterioration in the quality of features.

2.3.3. A conservation objective is a statement describing the desired ecological/geological state (quality) of a feature for which a Marine Conservation Zone (MCZ) is designated. The conservation objective sets out whether the feature is currently regarded as meeting the desired state and should be *maintained*, or falls below it and should be *recovered* to favourable condition.

2.3.4. Reference condition represents the upper end of favourable condition (see **Figure 12** in [Section 6.1](#)). Reference areas aim to achieve reference condition through the removal or prevention of extractive, depositional, and human-derived disturbing or damaging activities. The default conservation objective for reference areas is to recover to reference condition.

- 2.3.5. The MCAA (HM Government 2009a) requires designation orders for MCZs to include conservation objectives. The Conservation Objective Guidance (COG) (Natural England & JNCC 2011a) is the formal guidance from JNCC and Natural England that sets out the process for drafting a conservation objective for the features identified within recommended MCZs (rMCZs) (Natural England & JNCC 2011a). The purpose of this guidance was to outline the process regional MCZ projects and regional stakeholder groups (RSGs) should use in proposing draft conservation objectives. These draft conservation objectives informed initial discussions regarding likely measures required for protection to inform the Impact Assessment (IA) with advice from Public Authorities.
- 2.3.6. It should be noted that the conservation objectives that form part of the regional MCZ project MCZ recommendations may differ from those used for the IA since additional information was collected for the IA to that available to the RPs at the time they published their recommendations in September 2011.
- 2.3.7. The RSGs proposed high-level draft conservation objectives to accompany their recommendations on possible MCZs. We recognise that the development and use of conservation objectives is a complex process and that further information might need to be collected before conservation objectives can be used by public authorities to develop the management measures to control human activities.
- 2.3.3. Producing the Conservation Objective Guidance**
- 2.3.8. The COG was developed following approaches for setting conservation objectives for existing UK MPAs to ensure that the process was as consistent as possible with different types of designation (EN, SNH, CCW, EHS (DoE(NI)), JNCC & SAMS 2001).
- 2.3.9. The MPA network design principle ‘Best available evidence’ is embedded within the COG. The COG specifies that, where data are available that describe the feature’s condition, they should be used to assess condition and set the objective. In many cases survey and monitoring data are not available for rMCZs. In these cases the COG specifies that the next best available evidence should be used to determine feature condition indirectly, by assessing whether the activities currently occurring are likely to cause damage to the feature. This indirect process is called a vulnerability assessment, and indicates the degree to which a feature is considered vulnerable to activities occurring within or around a site depending on the degree of feature sensitivity and the level of exposure¹⁹ to activities (see annex 8 of Natural England and the Joint Nature Conservation Committee (2010) and Natural England and JNCC (2011a)). Vulnerability assessments are also used in deciding on conservation objectives and advice on operations for inshore and offshore European marine sites (EN, SNH, CCW, EHS (DoE(NI)), JNCC & SAMS 2001).
- 2.3.10. By applying a matrix of feature sensitivity (taken from Defra contract MB102 (Tillin, Hull and Tyler-Walters 2010)) against level of exposure (described in Table 4 of the COG (Natural England & JNCC 2011a)), features were assessed as having high, moderate, low or unknown vulnerability. Where the vulnerability was assessed as high or moderate, a feature was assumed likely to be in unfavourable condition and a conservation objective of recover was set. Where a feature was assessed as of low vulnerability, it was assumed likely to be in favourable condition and a conservation objective of maintain was set. Vulnerability assessments were not applied to features within reference areas.
- 2.3.11. The COG identified the sources of best available evidence for regional MCZ projects to use in proposing draft conservation objectives. One of the primary sources of information was the feature-

¹⁹ Sensitivity and exposure are defined in the [Glossary](#)

sensitivity matrix developed under Defra's MB0102 contract (Tillin, Hull and Tyler-Walters 2010). This matrix was developed using best available evidence from the literature and where this was lacking used expert information from a stakeholder workshop. Where there was less evidence to support sensitivity information, judgements had lower confidence. Our understanding of the impact of pressures on features is variable and subject to ongoing research. The UK Marine Monitoring and Assessment Strategy (UKMMAS) and the JNCC-led Marine Biodiversity Monitoring and Surveillance Programme are leading much of this research. We encourage agencies and academic bodies to carry out further research in this important area.

- 2.3.12. In order to summarise information needed to carry out the vulnerability assessments, JNCC and Natural England developed a collation table that makes it possible to cross-reference a feature-sensitivity matrix (Tillin, Hull and Tyler-Walters 2010) with a pressure-activity matrix (JNCC 2010c).
- 2.3.13. The COG states that information on exposure provided by stakeholders (local knowledge and information) as well as national activity datasets (for example the Vessel Monitoring System, VMS) should be used to obtain the highest quality information available to inform the vulnerability assessments and determine the likely conservation objectives. JNCC and Natural England staff also provided local and specialist knowledge on the ecology of features and the effects of pressures on features associated with activities. The COG specifies that limitations of evidence and uncertainties should be clearly recorded in the recommendations. Limitations of evidence and uncertainties are recorded in the final reports of the regional MCZ projects (Balanced Seas 2011a, Irish Sea Conservation Zones 2011, Net Gain 2011a, Lieberknecht, et al. 2011). JNCC and Natural England's confidence in judgements of condition are assessed in [Section 5.2](#).

2.4 Assessment of Ecological Network Guidance and Conservation Objective Guidance against the provisions of the Marine and Coastal Access Act for Marine Conservation Zones

Advice to Defra

*Taken together, JNCC and Natural England **advise** that a suite of Marine Conservation Zone (MCZ) recommendations that meet the design principles and other considerations of the Ecological Network Guidance, and which meet the Conservation Objective Guidance, should contribute to meeting, along with existing Marine Protection Areas (MPAs), the conservation and network requirements of the Marine and Coastal Access Act 2009 (MCAA) as they apply to the Defra marine area.*

*JNCC and Natural England **advise** that the features protected in existing MPAs and recommended for protection in recommended Marine Conservation Zones (rMCZs) do represent the range of features present in the Defra marine area.*

*JNCC and Natural England consider that the existing MPAs and rMCZs reflect that conservation of a feature may require the designation of more than one site. However, we **advise** that replication is also needed within biogeographic areas to effectively conserve the full range of features.*

Key messages

We show that the Ecological Network Guidance meets the requirements of sections 117, 118 and 123 of the Marine and Coastal Access Act 2009.

We anticipate that by designating MCZs that meet the network design principles, and particularly for features not represented in existing MPAs, MCZs will make an appropriate contribution towards the requirements of the Act for a MPA network.

However, this cannot be assessed until MCZs are designated, and considered alongside other MPAs in the UK and any wider spatial protection measures.

In terms of meeting the network provisions of section 123 of the Marine and Coastal Access Act:

JNCC and Natural England cannot assess how the network will contribute to the conservation or improvement of the marine environment until we know which rMCZs will be designated and how effectively management measures are implemented and thus whether conservation objectives are likely to be met. Monitoring of all MPAs will be essential to understand their contribution to conserving or improving the marine environment.

JNCC and Natural England consider that the features protected in existing MPAs and recommended for protection in rMCZs do represent the range of features present in the Defra marine area. However, if certain habitat types not protected by existing MPAs (for example subtidal muds) are not designated in recommended MCZs, then the network may no longer meet this condition.

JNCC and Natural England consider that the existing MPAs and rMCZs reflect that conservation of a feature may require the designation of more than one site. However, we advise that replication is also needed within biogeographic areas to effectively conserve the full range of features.

2.4.1 Aims of this section

2.4.1. This section will:

- Assess the design principles in the Ecological Network Guidance (ENG) and the Conservation Objective Guidance (COG) against the Marine Conservation Zone (MCZ) provisions of the Marine and Coastal Access Act (MCAA)
- Assess how the rMCZs contribute towards meeting the MCAA provisions for the creation of a network of conservation sites.

2.4.1. Introduction

2.4.2. [Section 2.1](#) sets out the legislative and policy framework driving the process of identifying MCZs and [Sections 2.2](#) and [2.3](#) describe how JNCC and Natural England have interpreted the framework in writing the ENG (Natural England and the Joint Nature Conservation Committee 2010) and COG (Natural England & JNCC 2011a) to recommend MCZs that meet the requirements of the MCAA (HM Government 2009a).

2.4.3. **Table 3** shows how the different elements of the guidance deliver against the MCZ provisions of the MCAA. Taken together, JNCC and Natural England **advise** that a suite of MCZ recommendations that meet the design principles and other considerations of the ENG, and which meet the COG should contribute to meeting, along with existing Marine Protected Areas (MPAs)²⁰, the conservation and network requirements of the MCAA as they apply to the Defra marine area.

²⁰ And planned new MPAs such as SACs and SPAs.

Table 3 Assessment of Ecological Network Guidance guidelines and Conservation Objective Guidance against the Marine and Coastal Access Act provisions for MCZs

Note:

- Columns 1 & 2 set out the clause numbers and corresponding provisions of Part 5 of the MCAA that relate to the features of MCZs and to the network.
- Column 3 assesses the scale at which these provisions operate, either at feature, site or overall network scale.
- Columns 4-15 set out the network design principles and other guidelines described in the ENG and assesses these against the provisions in the MCAA. A tick means that the respective design principle, if met through MCZs, will contribute to implementing the corresponding provision of the MCAA.
- The final column assesses the COG against the MCAA provisions. A tick means that the COG, applied through MCZs, will contribute to implementing the corresponding provision of the MCAA.

MCAA section	Provision	Scale at which provision operates	Network design principles						Other ENG guidelines						Conservation Objective Guidance
			Representativity	Replication	Viability	Adequacy	Connectivity	Protection	Best available evidence	Areas of additional ecological importance	Impacts and feature vulnerability	Scientific value	MCZ boundaries	Geological and geomorphological features of importance	
117(1)(a)	Conserving marine flora or fauna	Feature	✓	✓	✓	✓	✓	✓	✓	✓					✓
117(1)(b)	Conserving marine habitats or types of marine habitat	Feature	✓	✓	✓	✓	✓	✓	✓	✓					✓
117(1)(c)	Conserving features of geological or geomorphological importance	Feature						✓	✓					✓	✓
117(2)(a)	State the protected feature or features	Site	✓					✓	✓	✓					✓
117(2)(b)	State the conservation objectives for the MCZ	Site						✓	✓						✓

MCAA section	Provision	Scale at which provision operates	Network design principles						Other ENG guidelines						Conservation Objective Guidance
			Representativity	Replication	Viability	Adequacy	Connectivity	Protection	Best available evidence	Areas of additional ecological importance	Impacts and feature vulnerability	Scientific value	MCZ boundaries	Geological and geomorphological features of importance	
117(4)	Conserving any species that is rare or threatened	Feature	✓	✓	✓	✓	✓	✓	✓	✓					✓
117(5)	Conserving the diversity of flora, fauna or habitat whether or not rare or threatened	Feature	✓	✓	✓	✓	✓	✓	✓	✓					✓
118(1)	Identifying the boundaries of the area designated	Site							✓				✓		
123(2)	MCZs form a network together with other conservation sites	Network	✓	✓	✓	✓	✓	✓	✓						
123(3)(a)	The network contributes to the conservation or improvement of the marine environment in the UK marine area	Network	✓	✓	✓	✓	✓	✓	✓						✓
123(3)(b)	The features protected by the sites in the network represent the range of features present in the UK	Network	✓	✓		✓		✓	✓						

MCAA section	Provision	Scale at which provision operates	Network design principles						Other ENG guidelines						Conservation Objective Guidance	
			Representativity	Replication	Viability	Adequacy	Connectivity	Protection	Best available evidence	Areas of additional ecological importance	Impacts and feature vulnerability	Scientific value	MCZ boundaries	Geological and geomorphological features of importance		
123(3)(c)	The designation of sites comprised in the network reflects the fact that the conservation of a feature may require the designation of more than one site	Network	✓	✓			✓		✓							

2.4.2. Assessing how the rMCZs contribute to meeting the provisions of section 123 of the MCAA

2.4.4. Section 123 of the MCAA sets out three conditions for the MPA network:

- That the network contributes to the conservation or improvement of the marine environment in the UK marine area
- That the features which are protected by the sites comprised in the network represent the range of features present in the UK marine area
- That the designation of sites comprised in the network reflects the fact that the conservation of a feature may require the designation of more than one site (section 123(3)).

2.4.5. Data on the distribution of broad-scale habitats is more readily available than comprehensive data on the distribution of individual species and biotopes in the marine environment. Therefore international best practice in MPA network design indicates that it is most practical to design an MPA network that protects examples of all broad-scale habitat types across their geographic and ecological range, since broad-scale habitats act as surrogates for biodiversity at finer scales (IUCN-WCPA 2008, SCBD 2004). The ENG defines broad-scale habitats at European Nature Information System (EUNIS) level 3 since guidance of the Convention for the Protection of the marine environment of the North-East Atlantic (OSPAR) recommends that this level of classification best reflects the variation in biological character of the habitats in the OSPAR area (OSPAR 2006-3). The ENG also includes threatened, rare or declining species and habitats (the Features of Conservation Importance - FOCI), because it is important to consider these separately in order to identify where urgent action is required for their conservation within the broad-scale habitats. It is considered that an MPA network that represents examples of all of the broad-scale habitats and FOCI listed in the ENG will represent the full range of associated species and biotopes within the Defra marine area. Since the representativity guidelines in the ENG have generally been met ([Section 4.1](#)), JNCC and Natural England **advise** that the features protected in existing MPAs and recommended for protection in rMCZs do represent the range of features present in the Defra marine area. If certain habitat types not protected by existing MPAs (for example subtidal muds) are not designated in rMCZs, then the network may not meet this condition.

2.4.6. International best practice indicates that features should be replicated in separate MPAs within each biogeographic area to ensure that they are adequately conserved (IUCN-WCPA 2008, OSPAR 2006-3, SCBD 2004). The ENG specifies the number of examples of broad-scale habitats and FOCI that should be protected in each regional MCZ project area, and this network design principle has generally been met ([Section 4.1](#)). Therefore JNCC and Natural England consider that the existing MPAs and rMCZs reflect that conservation of a feature may require the designation of more than one site. There is replication of features within existing MPAs to meet the sufficiency requirements of the Habitats Directive (as the sufficiency requirements would not be met with only one site for each feature). However, we **advise** that to effectively conserve features replication is needed within biogeographic areas (see [Section 4.1](#) for consideration of replication within Charting Progress 2 (CP2) (Defra 2005) regions). Discussions are taking place within the UK Administrations regarding the most appropriate biogeographic areas to be used when considering UK MPAs and network requirements and obligations.

2.4.7. The regional stakeholder groups used the advice in the COG to develop conservation objectives for features to ensure that rMCZs contribute to the conservation or improvement of the marine environment. The wider benefits that rMCZs can provide in terms of their contribution to the conservation or improvement of the marine environment in the Defra marine area will need to be considered alongside the contributions from the other components of the MPA network in the UK marine area, and wider conservation measures that are being delivered through other mechanisms such as marine planning. Consequently, JNCC and Natural England cannot assess how the

network will contribute to the conservation or improvement of the marine environment until we know which rMCZs will be designated and how effectively management measures are implemented and whether conservation objectives are likely to be met. We consider that all of the network design principles need to be met to have the best chance of delivering biodiversity benefits for the marine environment (Natural England and the Joint Nature Conservation Committee 2010). Monitoring of the MPAs will be essential to understand their contribution to conserving or improving the marine environment.

- 2.4.8. In meeting the conditions for the network set out in **paragraph 2.4.4** above, the appropriate authority 'must have regard to any obligations under EU and international law that relate to the conservation or improvement of the marine environment (MCAA s123 (5))' (HM Government 2009a). These commitments include achieving Good Environmental Status of our waters to meet the requirements of the Marine Strategy Framework Directive (MSFD) and are set out further in [Section 6.1](#).
- 2.4.9. [Section 4.1](#) of our advice assesses how the rMCZs in general meet the ENG guidelines and [Annex 5](#) describes each rMCZs specific contribution. JNCC and Natural England have not assessed whether alternative configurations could have also met the guidelines or requirements of the MCAA. However, through the iterative approach to rMCZ identification used by the regional MCZ projects, regional stakeholder groups considered different site configurations.

3 Overview of the process used to develop Marine Conservation Zone recommendations

- 3.1 The Marine and Coastal Access Act 2009 (MCAA) provides Ministers with a power (section 116) to designate Marine Conservation Zones (MCZs) for rare, threatened and representative marine flora and fauna as well as features of geological and geomorphological interest. In contrast with European Marine Sites, the Act states that the designation of MCZs *may have regard to any economic or social consequences* (section 117(7)). It is Defra policy that social and economic impacts will be taken into account in designating MCZs (Defra 2010b).
- 3.2 Defra asked JNCC and Natural England to run a process to involve stakeholders in developing MCZ recommendations in line with the ecological and socio-economic requirements of the MCAA and related policy (Defra 2010b).
- 3.3 JNCC and Natural England established the Marine Conservation Zone Project in 2008, setting up four regional MCZ projects that gave stakeholders the responsibility to develop recommendations on the features, boundaries and conservation objectives of MCZs. To facilitate the delivery of the required outputs from the four regional MCZ projects, JNCC and Natural England provided the regional MCZ project teams and regional stakeholder groups with the Project Delivery Guidance (PDG) (Natural England and JNCC 2010).
- 3.4 The final version of the PDG on the process to select MCZs was published in July 2010. It provided the framework for the selection and recommendation of MCZs to Government, and includes a requirement for environmental, social and economic impacts (positive and negative) to be presented to satisfy Government policy in an Impact Assessment (IA).
- 3.5 The process identified in Chapter 3 of the PDG outlines eight stages that the regional MCZ projects should complete. At the time of publication, JNCC and Natural England recognised that the organisation of regional stakeholder engagement and detailed implementation of the stages may necessarily vary between regional MCZ projects depending on area-specific circumstances (see Section 1.1, page 5 of the PDG). Indeed, at the time of publication of the final version some differences in the approaches and delivery between the regional MCZ projects were already apparent.
- 3.6 Since the publication of the PDG in July 2010 the timetable for delivery and specific requirements for the regional MCZ projects were changed. This reflected the complexity of the tasks that had to be undertaken by the regional MCZ projects and the additional time necessary to satisfy the increased scope of the Impact Assessment. JNCC and Natural England have not published a revised version of the PDG but will be identifying amendments made to the delivery timetable and other changes to the process through an addendum to be published in summer 2012. Any significant changes that relate to this advice will be identified, where appropriate.
- 3.7 [Section 3.1](#) will identify differences between the detail set out in the PDG and what was implemented in practice. It includes:
- A description of the process in each regional MCZ project including detail on:
 - how stakeholders were engaged in each regional MCZ project
 - governance structures and the roles and responsibilities of the groups established
 - identification of any departures from the PDG with regard to stakeholder engagement and governance
 - brief explanation of reasons for and implications of the differences or delays in delivery of significant aspects of the work identified in the PDG, focusing on

- MCZ site identification
- identification of reference areas
- drafting of conservation objectives
- identification of management measures and
- production of the Impact Assessment.
- The delivery of the Science Advisory Panel's (SAP's) responsibilities in the development of regional MCZ project recommendations
- Any expected outputs that were not delivered in the final recommendations.

3.8 [Section 3.2](#) of this advice reports how international and national stakeholders not directly involved in the four regional MCZ project stakeholder groups were engaged in the development of MCZ recommendations. It:

- Outlines JNCC and Natural England's national and international stakeholder engagement process
- Highlights where problems and issues occurred and the implication these may have had on the Project
- Explains how such issues were dealt with and
- Provides advice to Defra following on from this stage in the identification of the MCZ Project.

Advice to Defra and the Public Authorities

*We **advise** that Defra ensures that the public consultation is widely advertised to all sectors with a clear invitation to comment on the proposed Marine Conservation Zones and associated Impact Assessment. We **advise** that consultation material is translated into other EU languages to help stakeholders in other Member States to engage. We **advise** that sufficient resources be assigned to regional, national and international stakeholder engagement for the remainder of the Marine Protected Area processes, to maintain and build relationships, communications and trust.*

*We **advise** that the regional Marine Conservation Zone project conservation objective recommendations submitted in September 2011 reflect the views of the regional stakeholder groups, and not JNCC, Natural England or Public Authorities. We **advise** that processes in line with the requirements of the MCAA are put in place to enable our conservation objective advice to be refined as new information becomes available. We **advise** that any changes from the conservation objectives identified by the regional stakeholder groups may lead to a requirement for management that differs from stakeholder expectations.*

*We **advise** Public Authorities that once it is confirmed that sites are to be designated they should consider initiating a programme of stakeholder engagement to identify management measures that will deliver the conservation objectives of designated Marine Conservation Zones and ensure they are understood and as widely supported as possible.*

*In order to manage Marine Protected Areas in UK offshore waters and certain areas between 6 and 12 nm, it will be necessary to seek measures under the EU's Common Fisheries Policy. It is important in this context that all fishing fleets with an interest in Marine Protected Areas are treated equitably regardless of national origin. We **advise** that due to risk of challenge regarding equity in Marine Conservation Zone decision making, an assessment of the risks associated with achieving site management through the Common Fisheries Policy is undertaken.*

*In order to ensure stakeholder involvement during the Marine Conservation Zone consultation and designation phase, we **advise** that JNCC and Natural England continue their engagement efforts with national and international stakeholder organisations. Although stakeholders voiced concerns about the project, good relationships have been formed through the course of engagement work. It is important to continue working with these stakeholders.*

*There is limited understanding of the MCZ Project beyond stakeholders/stakeholder representatives directly involved with the regional MCZ projects. JNCC and Natural England **advise** that continued effort is made to publish relevant articles in sector-specific media such as newsletters and trade publications.*

For future projects with a marine nature conservation element JNCC and Natural England advise coordinated engagement of non-UK stakeholders to streamline engagement, ensure understanding and build support for initiatives.

Key messages

There were regional differences in the engagement and governance structures established by the regional Marine Conservation Zone projects. However, we believe that overall these differences did not materially affect the development of recommendations but reflected the geographical variation between the project areas.

There was significant variation in the extent to which members of the regional stakeholder groups liaised with their constituents to ensure sector-wide views were considered during the Marine Conservation Zone planning meetings. A number of stakeholders made complaints feeling that their views were not reflected in the recommended Marine Conservation Zone (rMCZ) identification process.

Wider project communications were extensive during the process and the regional Marine Conservation Zone projects attempted to raise awareness through available media. However, we acknowledge that they could have been more effective if additional resources were available and that members of the public were not aware that Marine Conservation Zones were recommended in areas they use or have an interest in until the submission of final recommendations.

Regional Marine Conservation Zone project recommendations reflect the requirements of the Marine and Coastal Access Act and Defra policy to identify Marine Conservation Zones for rare, threatened and representative marine flora and fauna as well as features of geological and geomorphological interest, whilst taking social and economic impacts (costs and benefits) into account. Approaches differed across the four projects, but they reflected the flexibility expected as set out in the Project Delivery Guidance.

More precise identification and representation of boundaries may have led to rMCZs that delivered the ecological benefits sought while minimising the potential social and economic impacts associated with some sites.

The 65 reference areas recommended by the regional stakeholder groups were identified late in the process with limited opportunities for informed stakeholder engagement in the rationale and supporting evidence base.

The regional Marine Conservation Zone projects did satisfy Project Delivery Guidance requirements by recommending management measures in their final reports. However, the development of management measures differed from the process and timetable set out in the Project Delivery Guidance.

Little time was dedicated to discussing and identifying management measures as the process was dependent on the identification of conservation objectives which took place between April and July 2011.

Each of the regional Marine Conservation Zone projects did engage the Public Authorities to help develop the final recommended management measures.

It is not possible to conclude whether the MCZs recommended by the regional stakeholder groups would have been materially different if discussions on management measures had taken place earlier in the

process. However, it was recognised that further discussion would have led to more detailed assessments and better understanding and support for the measures identified.

The regional stakeholder groups have taken potential socio-economic implications into account and in many cases they have recommended reference areas that do not satisfy Ecological Network Guidelines. In other cases, they have chosen not to identify sites at all. Therefore, the process to identify reference areas was flawed and failed to deliver recommendations that satisfy JNCC and Natural England expectations. Detail on our conclusions on how the reference area recommendations satisfy the Ecological Network Guidance guidelines are included in [Section 4.1](#).

It was only possible to evaluate impacts of rMCZs once the features, boundaries and conservation objectives of each site were finalised. Due to the large number of sites identified and the fact that the regional Marine Conservation Zone projects finalised their recommendations shortly before final submission on 7 September 2011, the deadline to complete the Impact Assessment was extended to July 2012. Therefore, the Impact Assessment was not developed or submitted in line with the timetable set out in the Project Delivery Guidance.

Some stakeholders raised concerns that the methodologies and scenarios being presented in the Impact Assessment were not appropriate. In some cases, stakeholders questioned why their information had not been presented in the Impact Assessment at all. In our view, the regional Marine Conservation Zone project staff handled these concerns appropriately by capturing all responses in a log, identifying how they were addressed and securing advice from Defra economists on whether the Impact Assessment included the right information and was presented in a way that satisfied Government requirements.

The named consultative stakeholder (NCS) process – a status set up to allow regional, national or international stakeholders who were not able to attend regional stakeholder group meetings to play an important, but less intensive, role in the development of MCZ recommendations – was less effective than regional stakeholder group membership as a means of representing stakeholder interests because of lack of direct representation within the decision-making groups and logistical difficulties in handling the large amounts of information and feeding into the groups. This was partially mitigated by some stakeholders through the presence of ‘umbrella’ organisations that were able to represent the interests of their sectors within regional stakeholder groups. Due to the scale of the project, engaging national and international stakeholders through representative organisations was the most efficient method identified for engagement. Further, regular productions of the Marine Conservation Zone newsletter supported wider stakeholders to keep up to date with the Project’s process and provide stakeholders with a point of contact should they require it.

Delays in country specific engagement; tight time frames; difficulties in engaging in the regional stakeholder groups; coupled with vast quantities of material from the different regional projects and language problems, made it difficult for non-UK fisheries stakeholders to engage fairly in the project. This problem was exacerbated by their being several MPA projects running concurrently, each with their own specific delivery guidance. For logistical reasons, JNCC engaged stakeholders on a UK-wide, multi-project, rather than project-specific basis. Although this was generally appreciated by stakeholders, it also served to increase the complexity of the message. Full engagement of non-UK stakeholders in multiple project areas was often difficult due to an onerous demand on financial/staff resource.

It has not been possible to ascertain whether regional stakeholder group membership selection sufficiently facilitated equitable treatment of stakeholders since invitations were at the behest of regional stakeholder groups and not JNCC and Natural England, albeit with the timeframes and resources provided much effort was dedicated to try to support non-UK stakeholder engagement.

Although wider project communications were extensive, we acknowledge that some stakeholders were not aware that rMCZs and recommended reference areas were being proposed in areas they use or have an interest in until after the submission of final recommendations.

3.1. Overview of governance of the regional Marine Conservation Zone projects and the process used to identify Marine Conservation Zone projects

3.1.1 A description of the stakeholder engagement processes and governance structures in each regional Marine Conservation Zone (MCZ) project

What stakeholder engagement and governance structures does the Project Delivery Guidance recommend?

3.1.1. Section 2.2 of the Project Delivery Guidance (PDG) sets out the recommended stakeholder engagement process and governance structures in each regional MCZ project. Key components required were:

- A regional Project Board responsible for the effective delivery of MCZ recommendations and accompanying Impact Assessment by the regional stakeholder groups to Natural England and JNCC, both within the project budget and meeting national MCZ guidance. We advised that Board members should not be directly involved in, or influence, the MCZ recommendations
- A regional stakeholder group responsible for producing the MCZ recommendations that satisfied the Ecological Network Guidance (ENG) (Natural England and the Joint Nature Conservation Committee 2010). We recognised that the regional stakeholder group would need to have a limited membership for pragmatic implementation reasons. A maximum number of 50 members was identified based on best practice from other comparable processes (Pound 2009). Therefore, members of the regional stakeholder group were expected to have a good knowledge of their sector so they could actively represent their sector's interests within the group. Between meetings, group members, supported by the regional and national project teams, were expected to liaise with their sector to:
 - Provide information on potential environmental, economic, and social effects of the proposed MCZ options. This should have included information on the potential for sectors to adapt their activities where necessary to achieve the conservation objectives for features in the proposed MCZs
 - Disseminate information on the MCZ recommendation process and workshop outputs to their sector and
 - Act as the point of contact for establishing a two-way dialogue to ensure their sectors' aspirations for MCZs were represented at workshops. The PDG specifically states that regional stakeholder group members must represent and liaise with their stakeholder sector outside the meetings to ensure everyone's views and concerns were raised²¹
- Provision for named consultative stakeholders (NCS) – a status set up to allow regional, national or international stakeholders who were not able to attend regional stakeholder group meetings to play an important, but less intensive, role in the development of MCZ recommendations. Specifically they had the opportunity to provide comment on the recommendations at key points in the development process (that is, when draft iterations 1, 2, 3 and the draft recommendations were submitted to the Science Advisory Panel (SAP))
- Undertaking a detailed stakeholder analysis as a basis to ensure appropriate cross-sectoral representation on the regional stakeholder group and named consultative stakeholder group
- Use a professional facilitator responsible for working with the regional project team to design and run a stakeholder engagement process to deliver MCZ recommendations and

²¹ Drawn from Section 2.2.2 of the Project Delivery Guidance.

- Establishing of smaller sectoral sub-groups or advisory groups if appropriate to:
 - support the detailed planning of MCZ recommendations and/or
 - Represent sub-regional and local stakeholders that had more detailed knowledge of the marine environment and its uses to inform the regional stakeholder group decision-making process.
- 3.1.2. JNCC and Natural England had different roles and responsibilities associated with the delivery of the regional MCZ project recommendations. These were:
- Project management – as members of the regional Project Boards
 - Engaging as a stakeholder in the development of MCZ recommendations.
- 3.1.3. We also had a responsibility to oversee the delivery of the MCZ Project and all of its parts, build support and understanding of the Project and provide advice to Government on the regional MCZ project recommendations. These numerous roles sometimes led to stakeholder confusion about our remit, which we sought to address through the publication of two documents setting out our roles and responsibilities (JNCC 2010b, Natural England 2010a).

Finding Sanctuary project's stakeholder engagement and governance structures

Background to the Finding Sanctuary project

- 3.1.4. The Finding Sanctuary project was initially established as a pilot project to engage stakeholders in the identification of Marine Protected Areas (MPAs) in the south-west of England in 2004. This was five years before the Marine and Coastal Access Act 2009 received Royal Assent and the establishment of the MCZ Project. In this context, the project evolved to develop a governance structure and stakeholder engagement model that reflected the framework set out in the PDG by November 2009. A comprehensive explanation of the project's evolution, stakeholder engagement and governance structures are set out in section 1 of Finding Sanctuary's Final Report and Recommendations (Lieberknecht, et al. 2011).

Governance and stakeholder engagement structures

- 3.1.5. Finding Sanctuary's governance structures followed the framework set out in the PDG, with a regional Project Board, regional stakeholder group (named the Steering Group), NCSs and five local groups. The project appointed a professional facilitation team in July 2009. The project will end following the submission of the regional MCZ project Impact Assessment information.
- 3.1.6. The Finding Sanctuary Project Board was established in July 2004, as part of the governance of the pilot phase of the project (that is, prior to the establishment of the MCZ Project in 2009). It expanded in 2005 and 2006. From April 2009 the Board was composed of 10 organisations which reflected the broad representation of interested parties and funding bodies that supported the project before 2009 (see section 1.3.1 of the Finding Sanctuary Final Recommendation report for membership) (Lieberknecht, et al. 2011). The Board chair was elected by its members through a free vote. Chairmanship changed three times from April 2009 to July 2012 due to staff changes within the representative organisations. Natural England chaired the Board until June 2011. The Project is being chaired by South West Food and Drink until its closure. The Project Board were not directly involved in, or influenced, the MCZ recommendations.
- 3.1.7. In an effort to achieve appropriate sectoral representation on the Steering Group the project ran two separate processes to secure membership. In March 2009 the existing Steering Group agreed to increase membership to be fully representative of marine stakeholder interests in the south-west. The project team issued press releases and made direct contact with 23 regional and national

organisations to invite them to apply for membership of the Group. Selection criteria were agreed, with an assumption that a sectoral representative should be selected if not already represented on the Group. Twenty-three sectoral representatives joined the Group as a result of the process. Five applications were rejected at the time either on the basis that the sector was already represented or that input was deemed more appropriate through one of the local groups (see section 2.1.14 of Finding Sanctuary's Final Report (Lieberknecht, et al. 2011)). The Steering Group tasked the project manager to interview three other applicants to gain more clarity on their sub-sectoral representation. As a result two further sectoral representatives were appointed to the Steering Group.

- 3.1.8. Following agreement by the Steering Group, in September 2009 the project established a 'process group'. This group was given delegated authority for detailed process planning to identify the best way to progress the development of MCZ recommendations in partnership with stakeholders in the project area. The group comprised four Steering Group members, three project team members and the facilitator. The project manager and facilitator selected process group members with the aim of including members who were judged to be committed to trying to make the process work, knowledgeable and representative of different sectoral interests.
- 3.1.9. In January 2010, the facilitators undertook a structured stakeholder analysis with the process group to identify any critical gaps in the Steering Group and to provide clear rationale for decisions over new members. The analysis highlighted a lack of representation from international stakeholders, the Department for Energy and Climate Change, environmental NGOs and potentially Local Authorities. In addition, an effort was made to ensure that there was consistency in sectoral representation across the four regional MCZ projects. As a result, three further stakeholders were invited to join the Steering Group. The process group determined that Local Authorities were better represented through the local groups. French fishing representatives became NCS (see **paragraph 1.13.2.25** and [Annex 3](#) for more detail). As a result, the final Steering Group comprised 41 members. The full list of members is in Appendix 2 of the Finding Sanctuary Final Report (Lieberknecht, et al. 2011).
- 3.1.10. In March 2010 Finding Sanctuary established 'inshore' and 'offshore' working groups, which then merged to form the joint working group in December 2010. The groups contained a smaller number of stakeholder representatives who the Steering Group tasked to undertake the detailed MCZ planning work. They provided their recommendations to the Steering Group at regular intervals. Once agreed by the Steering Group recommended sites were included in the iterations that were published and shared widely for comment in line with the MCZ timetable throughout the process. The Steering Group determined the MCZ recommendations submitted in the final recommendations in September 2011.
- 3.1.11. Finding Sanctuary established five local groups, which represented Dorset, Devon, Somerset, Cornwall, and the Isles of Scilly. Their purpose was to operate and effectively engage on a scale that was meaningful to local stakeholders, and to ensure that local perspectives would be heard as the regional suite of MCZs was being developed. They were also intended to help secure local ecological data and other spatial data where relevant, such as estuary management plans. The groups provided site suggestions to the Steering Group, reviewed the regional Steering Group's progress and provided feedback on the developing recommendations from a local perspective.
- 3.1.12. In collaboration with a local partner Finding Sanctuary set up four of the local groups, the exception being for Cornwall which already had an MPA group in existence. The Devon and Dorset local groups were co-ordinated by the existing county marine stakeholder forums, the Isles of Scilly and Cornwall groups by the Sea Fisheries Committees and the Somerset group by a Finding Sanctuary team member. A co-ordinator managed each local group and worked closely with the Finding

Sanctuary project team to organise meetings. The local group co-ordinators sat on the Steering Group, to ensure effective two-way communications between the local and regional levels.

- 3.1.13. Finding Sanctuary made public calls to the Devon Maritime Forum and Dorset Coastal Forum and local media to request members for the groups. Membership selection was undertaken jointly by each co-ordinator, according to agreed criteria and the respective Finding Sanctuary liaison officer, to make sure that all sectors and associations were adequately represented. The full list of members is available in Appendix 2 of Finding Sanctuary's Final Report.
- 3.1.14. The Steering Group and working group meetings were organised by the project team and run by the professional facilitator. The local group meetings were organised and facilitated by their co-ordinators, with support from the Finding Sanctuary project team.
- 3.1.15. In total, the Finding Sanctuary project held 41 Steering Group and working group meetings and 29 local group meetings.
- 3.1.16. Expertise in the project team satisfied PDG expectations, with professional skills in project management, MPA planning, marine ecology/science, geographic information systems (GIS), stakeholder liaison, economics, social science and communications.
- 3.1.17. Nine full-time staff were dedicated to stakeholder liaison work during the data collection phase of the project with a responsibility for:
- Collecting spatial activity data from fishing and recreational stakeholders at a club and individual level and
 - Communicating with stakeholders to ensure they were aware of the project and its progress, feeding back communications to the project team, supporting local and regional stakeholder group work.
- 3.1.18. A communications manager was employed from November 2008 onwards to provide information and promote the project's remit.
- 3.1.19. Detail on wider engagement with stakeholders that were not members of the established stakeholder groups is provided in [sub-section 3.1.2](#).

Balanced Seas project's stakeholder engagement and governance structures

- 3.1.20. The Balanced Seas project started in 2008 and did not exist in any form prior to this. The project will end following the submission of the regional MCZ project Impact Assessment information. Governance structures adhered to the framework set out in the PDG, with a regional Project Board, regional stakeholder group, named consultative stakeholders and three local groups.
- 3.1.21. JNCC and Natural England initiated the establishment of the regional Project Board prior to the appointment of a project manager. It held its first meeting in March 2009 and comprised Kent County Council, Natural England and JNCC. The University of Kent became a member of the Board in June 2009 when it became the host organisation of the project. A representative of Kent County Council chaired the Board for the duration of the project. The Project Board were not directly involved in, or influenced, the MCZ recommendations.
- 3.1.22. The membership of the regional stakeholder group and local groups was decided through an initial stakeholder analysis exercise followed by subsequent discussions with stakeholders and a further professionally-led stakeholder analysis. Further detail is provided below.

- 3.1.23. In late 2008, at the inception of the project, Natural England South East Region undertook a preliminary analysis to identify stakeholders likely to have an interest in the MCZ planning process for the Balanced Seas area. Once the project had formally started (January 2009) this list of individuals and organisations was used to target invitations to two introductory meetings held in March 2009 in Portsmouth and London, at which the purpose of the project was explained. About 75 people attended, representing about 20 sectors.
- 3.1.24. In November 2009, once the project team had been recruited and the work plan developed, five county-level meetings were held in Essex, Kent, Sussex, Hampshire and the Isle of Wight to introduce the project in more detail, and start discussions with stakeholders as to how they would like to be involved in the process. A total of 259 people attended, representing 10 broad sectors (commercial fisheries, recreational fisheries, industry, local government, national government, coastal partnership, environmental NGOs, research & consultants, archaeology & heritage, recreation) (Balanced Seas 2010a)
- 3.1.25. The county-facilitated meetings had the following objectives:
- To develop ideas about how to establish the regional stakeholder group, including selection criteria (see below), the sectors/sub-sectors to be represented, and the organisations that might be suitable representatives and
 - To decide whether sub-regional groups would be necessary and how they should be set up, recognising that not all interest groups and organisations can be on the regional stakeholder group.
- 3.1.26. The permanent facilitator and the project team undertook a more detailed stakeholder analysis between January and March taking into account the initial analysis, stakeholder feedback, the need to have consistency in sectoral representation across the four regional MCZ projects, the requirements of the PDG and project team knowledge.
- 3.1.27. The result was the establishment of the Balanced Seas regional stakeholder group that was responsible for developing and agreeing the MCZ recommendations and three local groups whose establishment was endorsed by the regional stakeholder group. These represented the following areas: Solent, Isle of Wight and Hampshire; Sussex and South Kent; and Suffolk, Essex, Thames and North Kent.
- 3.1.28. The regional stakeholder group had 34 regular members. It included fisheries representatives from France, Belgium and the Netherlands. A full list of members can be found in Annex 4.1 in the Balanced Seas Final Recommendations (Balanced Seas 2011a).
- 3.1.29. The facilitator and project team met regularly to agree 'process plans' for each stakeholder meeting and decide what information and tasks to present to the regional stakeholder group.
- 3.1.30. During the process the regional stakeholder group approved the formation of two sub-groups known as Task Groups – the Offshore Task Group to address sites beyond 6nm and an Inshore Task Group to consider sites within 6nm. Both Groups were made up of regional Steering Group members. The Offshore Task Group comprised fisheries representatives, national sector representatives for industries such as shipping, JNCC and international fisheries interests. The Inshore Task Group comprised the majority of the regional stakeholder group, including Natural England. The Offshore Task Group met once in the lead-up to the third progress report and once in the lead-up to the draft final recommendations, whilst the Inshore Task Group met twice during the development of the third progress report. The Task Group meetings aimed to progress the regional stakeholder group's general, site-based or target-focused discussions, given the changes in targets for the Balanced Seas project area, and new data that came in at a relatively late stage in the

project. They provided a set of recommended changes to the proposed MCZ boundaries to the regional stakeholder group, but did not make decisions.

- 3.1.31. The local groups provided an advisory role. They were organised by the regional project team and run by the professional facilitation team. They met at key points in the process and were responsible for providing more detailed local knowledge and information to inform decision making reviewing, as well as providing feedback on the developing recommendations of the regional stakeholder group. They also responded to requests for specific views from the regional stakeholder group and project team.
- 3.1.32. Local group membership mirrored that of the regional stakeholder group, with representatives of all key sectors. The three local groups had a total of 114 members.
- 3.1.33. Participation in local group meetings was slightly more flexible than at the regional stakeholder group, so that key members of the local community or local sector could attend if a site was particularly relevant to them. By early 2011, many of the general locations for MCZs had been identified and meetings were then held for clusters of geographically related sites (for example the Isle of Wight sites). Relevant local group and regional stakeholder group (RSG) members were invited as well as other key stakeholders who could provide specific local knowledge of the area. Sector representation at the meetings was kept as balanced as possible. These meetings helped to gather further information, allowed more time for discussion on individual sites, and assisted in spreading awareness of the project.
- 3.1.34. In total, 11 RSG, two Offshore and two Inshore Task Group, 12 local group and 14 site meetings were held.
- 3.1.35. Expertise in the project team satisfied PDG expectations, with professional skills in project management, MPA planning, marine ecology/science, GIS, stakeholder liaison, economics, social science and communications.
- 3.1.36. Three full-time staff were dedicated to stakeholder liaison work during the data collection phase of the project and the project hired four data collectors on a short-term consultancy basis to assist the liaison officers.
- 3.1.37. The project employed a communications officer from August 2009 to disseminate information about the project to stakeholders and the wider public and promote the project's remit.
- 3.1.38. Detail on wider engagement with stakeholders that were not members of the established stakeholder groups is provided in [sub-section 3.1.2](#).

Net Gain project's stakeholder engagement and governance structures

- 3.1.39. The Net Gain project was initiated by the MCZ Project in 2008 and did not exist in any form prior to this. The project ended on 31 July 2012 following the submission of the regional MCZ project Impact Assessment. Governance structures followed the framework set out in the PDG, with a regional Project Board, a regional stakeholder group and named consultative stakeholders. However, there were some significant variations from the PDG with respect to the structure of the RSG and the project facilitation, which are detailed below.
- 3.1.40. JNCC and Natural England initiated the establishment of the regional Project Board prior to the appointment of a project manager. It held its first meeting in July 2009 and was initially composed of The Deep, the Yorkshire and Humber Seafood Group, Natural England and JNCC. The Yorkshire

and Humber Seafood Group went into administration and withdrew from the Board in March 2010. The Humber Industry Nature Conservation Association joined the Board as a replacement. A representative of The Deep chaired the Board for the duration of the project. The Project Board were not directly involved in, or influenced, the MCZ recommendations.

- 3.1.41. The project ended on 31 July 2012 following the submission of the regional MCZ project Impact Assessment.
- 3.1.42. Due to the significant length of coastline in the project area, the Net Gain team established a regional stakeholder group that differed slightly from what was recommended in the PDG. Our view is that this structure (described below) did not materially affect the development of recommendations but reflected the geographical differences between the areas.
- 3.1.43. The regional stakeholder group was composed of four 'Regional Hub' groups and one Stakeholder Advisory Panel (StAP) that operated under common terms of reference (Annex 8 (Net Gain 2011a)). It was their collective responsibility to deliver the MCZ recommendations for the project area. While the model created additional managerial complexity, the division of the project area into sub-regions significantly reduced travel to MCZ planning meetings and meant that a greater number of stakeholders with more intimate knowledge of the sub-region could be represented on the regional stakeholder group.
- 3.1.44. Although operating under common terms of reference, the StAP and the Regional Hubs had different roles in the recommendation process.
- 3.1.45. The four Regional Hubs represented the following sub-regions: the North East, Yorkshire and Humber, Lincolnshire and The Wash and the East of England. The Regional Hubs were where the focus of the planning work took place, with members making recommendations on the size, location, boundaries and conservation objectives for proposed sites in their geographical area. Therefore, they undertook the same role as the regional stakeholder groups in the other three regional MCZ projects but developed the MCZ recommendations on a sub-regional scale.
- 3.1.46. National and international stakeholders with an interest in more than one Regional Hub area complained that the structure was too resource-intensive and that they could not field representatives to be involved in decision making in each Hub. As there was little interaction between the Hubs they complained that this disadvantaged them in the development of site recommendations. We acknowledge these concerns, but recognise that Net Gain had to make pragmatic decisions about the way to address stakeholder engagement with the significant length of coastline in the project area.
- 3.1.47. It was the responsibility of the Regional Hub group members to act as the point of contact for establishing a two-way dialogue to ensure their sectors' aspirations for the MCZs were represented at workshops. This was stated in the terms of reference that Hub members agreed to when they took up their positions. While this worked well for some sectors, it did not for others. The project team recognised the flaw following submission of the first iteration (30 June 2010) and produced a feedback form to help members secure wider sectoral feedback.
- 3.1.48. The intention was that the StAP complemented the Regional Hubs as its function was to maintain an overview of the work being undertaken in the Regional Hubs, to check for consistency and balance and to bring all the recommendations from the Regional Hubs together. The StAP did not make decisions on recommendations. However, representatives from each Regional Hub sat on the StAP.
- 3.1.49. Specifically the StAP's role was to:

- Provide advice and feedback on how amendments could be made to proposed sites in adjacent Hubs to better achieve ENG criteria such as connectivity
- Provide advice to the Hubs where there were any inconsistencies or insufficiencies in meeting the ENG
- Ensure fairness across the Regional Hubs by checking that each Hub was aware of the emerging network and advise where additional sites may need consideration so that the ENG criteria of replication and representativity were met across the whole of the project area
- Ensure consistency in the approach taken across the Regional Hubs
- Advise on sectoral issues which extended beyond or crossed over individual Hub boundaries
- Consider the feedback from NCSs, the SAP and their sectors. To ensure a consistent approach, StAP members made recommendations to the Regional Hubs on how to incorporate feedback during the subsequent round of planning
- Provide data to inform the ongoing Impact Assessment, and advise on all potential effects of proposed MCZ options across the whole Net Gain project area. This included information on the potential for sectors to adapt their activities where necessary to achieve the conservation objectives for features in the proposed MCZs
- Advise on cross-boundary issues between Net Gain and other regional MCZ projects and the Scottish MPA Project.

3.1.50. Natural England staff were members of both the Regional Hubs and the StAP. These staff hold a view that the StAP did not perform its function to provide advice to help the Regional Hubs produce coherent recommendations for the Net Gain project area or fulfil its role to provide advice on cross-boundary issues with the other regional MCZ projects or the Scottish MPA Project. This view reflects the fact that while Natural England (and JNCC) staff provided advice to the Net Gain Project team and a view on various elements of project implementation as Regional Hub and StAP members, the Project team was independent and their influence was no greater than other members of the group. Therefore team members were responsible for how they handled comments from all the stakeholders on their RSG. The Regional Hubs never discussed the recommendations being developed by Balanced Seas or the Scottish MPA Project.

3.1.51. A large rMCZ was proposed on the Balanced Seas boundary but later ruled out on socio-economic grounds. It is therefore unclear whether different sites would have been put forward if the StAP had fulfilled its remit and whether this had any material effect on the final recommendations.

3.1.52. Membership of the four Regional Hubs and the StAP was determined through a professionally-led stakeholder analysis exercise followed by a number of meetings, calls for expressions of interest and nominations. JNCC and Natural England were not involved in the process of identifying stakeholders. The stakeholder analysis was used to develop a database which then provided the basis for inviting prospective members to a number of regionally run information dissemination 'road show' events.

3.1.53. Following the road show events, the team ran a 'Large Group meeting' in February 2010. One hundred and four interested stakeholders attended and had the opportunity to:

- Develop a better understanding of MCZs, the role of the Net Gain project and the approach Net Gain was intending to follow
- Develop a broadly agreed 'first stab' list of possible principles for successful MCZs
- Begin developing the terms of reference for the RSGs
- Discuss who should be invited to contribute at the Regional Hubs and
- Suggest the sectoral make-up of the StAP.

- 3.1.54. The road-shows, Large Group meeting, press releases, on-the-ground liaison and invitations to members on the stakeholder database were the basis for identifying potential regional stakeholder group members and resulted in expressions of interest and third-party suggestions.
- 3.1.55. StAP membership was more restricted than for the Regional Hubs. Consequently, there was a need for as little sectoral duplication as possible amongst the membership, and members were required to be highly representative in terms of both sector and geography. The objective was to appoint membership to the Panel such that the group would be made up of a limited number of umbrella organisations, associations or key industry stakeholders who were well placed to comment on the outputs of the Regional Hubs and to advise on sectoral issues across the whole of the Net Gain project area.
- 3.1.56. Once the StAP was established, further applications to join were considered on a case-by-case basis and discussed and agreed with existing Stakeholder Advisory Panel members.
- 3.1.57. As a result the Net Gain regional stakeholder group had a total of 169 regular members.
- 3.1.58. Net Gain contracted professional facilitators at the outset of the project until June 2010. The facilitators assisted in establishing the regional stakeholder group, including the terms of reference and principles for collaborative working. They provided facilitation training to the Net Gain team, and led engagement in the early Regional Hub meetings. However, following the initial planning meetings Regional Hub group members complained that they were not assisting in the process and requested that an alternative facilitating team was found. The role that other independent facilitators undertook in the three other regional MCZ projects was passed to the Net Gain stakeholder manager from 23 November 2009. As a permanent member of the team, the stakeholder manager had responsibility for planning and delivery of stakeholder meetings, and ongoing liaison with RSG members. He was supported in running stakeholder meetings by the other members of the project team, particularly the project manager, communications manager and liaison officers.
- 3.1.59. Members of the regional stakeholder group did not make any formal complaints about the facilitation arrangements but we have a concern about Net Gain's arrangement. There is an impression that the lack of an independent facilitation team stretched the capacity of Net Gain's team members to deliver all the work required of them as they had to resource all planning, delivery and follow-up of the four Regional Hub groups and the StAP. It is not possible to determine whether different recommendations would have been made if the team was less stretched/if independent facilitators had been employed, or whether support for the rMCZs identified would have been greater.
- 3.1.60. Expertise in the project team satisfied PDG expectations, with professional skills in project management, MPA planning, ecological expertise, GIS, stakeholder liaison, economics, social science and communications. However, the team did not have a role dedicated to marine ecology, and expertise was drawn into other elements of delivery. Our view is that Net Gain would have benefitted from a defined ecologist role within the team, as this may have addressed the issue of misinterpretation of the ENG, Conservation Objective Guidance (COG) and reference area advice during Project implementation.
- 3.1.61. In addition to the stakeholder manager, six full time staff were dedicated to stakeholder liaison work during the data collection phase of the project (one senior liaison officer and five liaison officers).
- 3.1.62. A communications manager was employed from July 2009 onwards to provide project information and promote its remit.
- 3.1.63. Detail on wider engagement with stakeholders that were not members of the established stakeholder groups is provided in [sub-section 3.1.2](#).

Irish Sea Conservation Zones project stakeholder engagement and governance structures

- 3.1.64. The Irish Sea Conservation Zones (ISCZ) project was initiated by the MCZ Project in 2008 and did not exist in any form prior to this. Governance structures followed the framework set out in the PDG, with a regional Project Board and a regional stakeholder group. It did not establish permanent local groups but these were an optional recommendation in the PDG and not required. The project will end following the submission of the regional MCZ project Impact Assessment information.
- 3.1.65. JNCC and Natural England initiated the establishment of the regional Project Board prior to the appointment of a project manager. It held its first meeting on 18 June 2009 and comprised Envirolink, the North West Development Agency, Natural England and JNCC. The North West Development Agency withdrew its membership due to other commitments at the end of 2009 and was replaced by the University of Liverpool in January 2010. A representative of the University of Liverpool chaired the Board for the duration of the Project. Defra and the Countryside Council for Wales (representing the Welsh Government) had observer status on the regional Project Board. The Project Board were not directly involved in, or influenced, the MCZ recommendations.
- 3.1.66. A professional facilitation team was appointed in August 2009. Due to contractual problems which were limiting consideration of MCZ options, this contract ended in February 2011 and the professional facilitation team that Finding Sanctuary employed was appointed to run the rest of the process through to August 2011. Our view is that a change in facilitator was necessary and well managed to minimise disruption to the delivery of the project. RSG membership remained unchanged following the switch.
- 3.1.67. Establishing the membership of the ISCZ regional stakeholder group involved a number of steps. The ISCZ liaison officers undertook a preliminary search for marine stakeholders in the Irish Sea. This resulted in a database of over 1,000 individuals. In October 2009, four County Workshops were held in north-west England, to which over 600 stakeholders were invited and 146 attended. They were held in:
- Cheshire and Wales (Runcorn)
 - Merseyside (Liverpool)
 - Lancashire (Blackpool)
 - Cumbria (Penrith)
- 3.1.68. These workshops were organised to communicate the aims and purpose of the ISCZ project. The first project facilitators advised a suitable breakdown of sectors/interests for the regional stakeholder group membership and stakeholders were asked to identify named individuals for each 'seat' and also to comment on the proposed balance of interests.
- 3.1.69. In January 2010, the project team and original facilitators identified the need for a small Process Advisory Group to assist them with sorting out the structure and composition of the regional stakeholder group and issues that this had thrown up. Process Advisory Group invitees were selected by the facilitator based on the invitees' knowledge of activities and stakeholders in the ISCZ project area. The structure designed by the facilitator included eight representatives from each of the three main sectors – fisheries, other marine industries and conservation/environment – together with a single representative of each of the other sectors. This gave a full regional stakeholder group membership of 38 (Irish Sea Conservation Zones 2011). In the event that two or more individuals' names were on the shortlist for the same seat (sector/interest), the ISCZ project team contacted those individuals to facilitate a shared solution to the problem. After the formation and announcement of the regional stakeholder group in the public domain, several stakeholders

contacted ISCZ requesting to be considered for a place on the group. Similar requests continued throughout most of the lifetime of the RSG. The facilitator decided whether there was good rationale to accept any of these additional stakeholders into the group. In most cases, the facilitator rejected these requests on the basis that it was not appropriate to have more than one individual to represent a particular interest/sector.

3.1.70. Each regional stakeholder group meeting was organised and run by the professional facilitator with support from the project team.

3.1.71. Several individuals on the RSG changed as the project progressed. This was largely due to staff changes within many of the organisations on the group. Where they could not attend a meeting themselves, the RSG members were encouraged to arrange for a substitute to attend in their place.

3.1.72. However, two fisheries representatives on the RSG did resign in July 2011 as they felt that they could not accept or endorse the final recommendations.

3.1.73. The Process Advisory Group mechanism continued to be used by facilitators and periodically met during the process. In reality, the majority of the Process Group discussions were not formal meetings, rather a mechanism of feedback to inform planning work for the following workshop. Upon starting work with ISCZ, but before they ran their first regional stakeholder group meeting, the new facilitators advised that it was necessary to have a formal Process Group meeting. This was held on 1 April 2011. During this meeting it was agreed that the role of the Process Group was:

- To support the project team and facilitators in designing and reviewing the overall process for the ISCZ project
- To provide ideas and input to the design of the RSG and any other stakeholder meetings and
- To continue to deal with any issues of representation (on the RSG)

3.1.74. ISCZ did not establish formal local groups in the same way as the other three regional MCZ projects. The geographical complexity of the project area did not lend itself to a natural structure of such groups, which would have had to include the Isle of Man, Northern Ireland, Wales and Scotland in addition to the various counties in the north-west of England. However, after the production of the third progress report in February 2011 the regional stakeholder group requested that focus group meetings were held to inform their recommendations during the remainder of the planning work. At that time, 10 MCZs had been identified in the project area. Five separate focus group meetings were held in March 2011, each focusing on two of the recommended MCZs.

3.1.75. The focus groups were composed of a limited number of regional stakeholder group members together with other local stakeholders on the basis that their activities/interests overlapped with one or both of the recommended MCZs. Focus group meetings were designed by the project team with support from the facilitator. Project team members ran the meetings.

3.1.76. The role of the focus groups was to provide more detailed ecological and socio-economic information to the regional stakeholder group and provide feedback on the features, boundaries and conservation objectives of shortlisted sites. Two further focus group meetings were run in June and July 2011 as new site boundaries and network issues arose. All material, including summaries of the discussions, were fed back to the regional stakeholder group for consideration.

3.1.77. Expertise in the project team satisfied PDG expectations, with professional skills in project management, GIS, stakeholder liaison, economics, social science and communications. The team did not have specialist marine ecological expertise initially, but employed a marine ecologist in March 2011 to respond to criticism from the Science Advisory Panel (SAP) that not enough ecological evidence was being used as a basis for developing MCZ recommendations. The

appointment benefitted the ISCZ stakeholder group and meant that from February 2011 the ecological evidence presented to them and the SAP was improved, although it did not result in significant changes in the features or boundaries recommended by ISCZ in its final recommendations.

3.1.78. Two staff worked full time on stakeholder liaison during the data collection phase of the project. At some points in the project an additional staff member was employed.

3.1.79. A communications manager was employed from May 2009 onwards to provide information and promote the project's remit.

3.1.80. Detail on wider engagement with stakeholders who were not members of the established stakeholder groups is provided in [sub-section 3.1.2](#).

Key messages and advice on stakeholder engagement and governance structures established by the four key regional Marine Conservation Zone projects

Key messages

There were regional differences in the engagement and governance structures established by the regional Marine Conservation Zone projects. However, we believe that overall these differences did not materially affect the development of recommendations but reflected the geographical variation between the project areas.

There was significant variation in the extent to which members of the regional stakeholder groups liaised with their constituents to ensure sector-wide views were considered during the Marine Conservation Zone planning meetings. A number of stakeholders made complaints feeling that their views were not reflected in the recommended Marine Conservation Zone (rMCZ) identification process.

Advice

*We **advise** that Defra ensures that the Public Consultation is widely advertised to all sectors with a clear invitation to comment on the proposed Marine Conservation Zones and associated Impact Assessment.*

3.1.2 Regional MCZ project engagement with stakeholders outside the formally established regional stakeholder groups

3.1.81. This section does not cover the engagement of national and international stakeholders which is detailed in [Section 3.2](#).

3.1.82. All four regional MCZ projects used a variety of strategies to engage those stakeholders not directly involved in the established stakeholder groups.

3.1.83. They gave particular focus to inshore UK commercial fishing and recreational activities sectors as there was little information on their spatial use of the sea through official sources. In contrast, those sectors that undertake licensed activities such as the aggregates and offshore renewables sectors for which good spatial data were made available, organised their own capacity and resources to take part in the stakeholder group discussions. The 'FisherMap approach' was used by all four regional MCZ projects to collect spatial and economic data on fisheries. An adapted version called 'Stakmap' was used to collect the same information for charter boats, sea angling, water sports and wildlife enthusiasts. Liaison officers interviewed commercial fisheries and charter boats, individual skippers or owners of vessels. For the recreational sector the large number of individuals involved meant that interviews were targeted at the club or organisation level. This opportunity was also used

to raise awareness about the MCZ Project and interviews with clubs were often attended by a number of members.

3.1.84. JNCC and Natural England established the [MCZ Project interactive map](#) (Defra, JNCC, Natural England 2010) in July 2010. It is a web-based tool that enabled sea-users and interest groups to view the draft recommendations made by each of the regional MCZ projects as they were published. It also enabled those interested to upload ecological, social and economic information about different sea areas. This information was used by the regional MCZ projects to help inform the development of MCZ recommendations and the Impact Assessment. From July 2010 to September 2011 the site was visited 13,978 times.

3.1.85. Media and regional and national events were widely used by all four projects to raise awareness about their roles. As described in more detail in **paragraph 3.1.103** all four regional MCZ projects publicised the publication of their progress reports at each iteration and highlighted the opportunity to provide information and comment on the developing recommendations through their representatives on the regional stakeholder groups.

3.1.86. However, based on the amount of correspondence sent to JNCC, Natural England and Defra following the submission of the final recommendations in September 2011 it is clear that wider awareness about the boundaries and potential implications of recommended MCZs was limited and came as a surprise to many in the wider public.

3.1.87. Statistics on wider communications and engagement outside the formal stakeholder groups were collated by the regional MCZ projects. These are presented in [Annex 3](#).

Key message and advice on regional Marine Conservation Zone project engagement with stakeholders outside the formally established stakeholder groups

Key messages

Wider project communications were extensive during the process and the regional Marine Conservation Zone projects attempted to raise awareness through available media. However, we acknowledge that they could have been more effective if additional resources were available and that members of the public were not aware that Marine Conservation Zones were recommended in areas they use or have an interest in until the submission of final recommendations.

Advice

We advise that Defra ensures that the Public Consultation is widely advertised and stakeholders not involved in regional stakeholder groups are given the opportunity to comment on rMCZs and the associated Impact Assessment.

3.1.3 Explanation of reasons for and implications of the differences or delays in delivery of significant aspects of the MCZ recommendation process

3.1.88. This section provides a brief explanation of reasons for and implications of the differences or delays in delivery of significant aspects of the work, focusing on:

- MCZ site identification
- Identification of reference areas
- Identification of conservation objectives
- Identification of management measures

- 3.1.89. Section 3 of the PDG sets out the eight-stage process and timetable for developing MCZ recommendations that the regional MCZ projects were expected to complete. As discussed, the PDG recognises that the implementation of the stages may vary between regional MCZ projects.
- 3.1.90. Table 2 in the PDG identifies deadlines for delivery of three MCZ iterations, or 'progress reports', and the final submission. The purpose of submitting the progress reports was to enable wider stakeholders, the SAP, JNCC and Natural England to provide information and comment on the emerging recommendations to enable regional stakeholder groups to refine their recommendations before the final submission.
- 3.1.91. In addition to the deadlines identified in the PDG the regional MCZ projects were given an extension of three months to deliver their recommendations by 31 August 2011. This enabled delivery of 'draft recommendations' on 1 June 2011, which allowed a further opportunity to refine recommendations. The revised deadlines were met by all four regional MCZ projects.

3.1.4 Site identification

- 3.1.92. Each of the regional MCZ projects identified features and suggested boundaries for rMCZs in their final recommendations. Apart from the final submission date, the PDG does not stipulate a date by when site identification should have been completed, but rather required refinement of recommendations following site identification in the first iteration (30 June 2010).
- 3.1.93. Section 4.2 of the PDG reflects the requirements of the MCAA and Defra policy to identify MCZs for rare, threatened and representative marine flora and fauna as well as features of geological and geomorphological interest, whilst taking social and economic impacts (costs and benefits) into account. Regional stakeholder groups had a responsibility to determine how they took socio-economic impacts into account during the identification of potential sites. Approaches differed across the four projects, but they reflected the flexibility expected as set out in the PDG.
- 3.1.94. Each of the regional stakeholder groups considered the inclusion of habitats and species not listed in the ENG (non-ENG features) as part of their considerations on what features should be protected in rMCZs. Each RSG had representatives from the RSPB, a local Wildlife Trust, the Marine Conservation Society and an IFCA. The inclusion of non-ENG features was advocated for by members of the regional stakeholder groups that had a particular conservation interests (for example. bird species by the RSPB, cetacean and shark species by The Wildlife Trust and Marine Conservation Society, fish species by the IFCAs). Advocacy occurred across the four regional MCZ projects, but reflected regional distributions and importance of non-ENG features. Having worked through a process to determine what evidence existed on the presence, extent and condition of non-ENG features and the potential social and economic costs of including them as features of recommended sites, regional stakeholder groups did not recommend any MCZs solely on the basis of non-ENG features. Instead, for a limited number of non-ENG species where good evidence was available, they recommended that they were also listed as features to be protected in MCZs that were recommended for habitats and species listed in the ENG.
- 3.1.95. While confidence in the initial proposals was limited and distinct boundaries were not necessarily stipulated, three projects submitted initial sites (which they referred to as 'areas of search', 'broad areas of search' and 'building blocks') that were being considered by the regional stakeholder groups as possible options in the first iteration. Net Gain only submitted existing MPA boundaries as its regional stakeholder group did not feel confident in sharing the outputs at that stage despite having identified some initial options. The reason for this lack of confidence is that members of the group felt that they had not engaged with the sector they represented on the initial proposals to a high enough degree to publish them.

- 3.1.96. For reasons set out in [Section 3.2.6](#) non-UK stakeholders were not involved in the development of the first iteration of recommendations. They were involved both as members of the regional stakeholder groups (RSGs) and as named consultative stakeholders (NCSs) in developing subsequent iterations.
- 3.1.97. The four projects presented common issues highlighting the challenge of identifying features and boundaries at the first iteration and reiterated them throughout the process. They were:
- Confidence in the data available: members of the regional stakeholder groups were clear that some of the data that had been provided to them were either incorrect or at a resolution that gave little confidence in identifying features or MCZ boundaries using it
 - Lack of data: high resolution data for some activities, such as that for fishing and recreational activity within 12nm were not available. Some stakeholders also refused to provide data which would have helped to identify sites more quickly
 - Unknown implications of designating rMCZs: stakeholder groups were not comfortable with identifying MCZs without understanding the likely implication on their sectors' activities
 - The publication of key guidance documents and analyses: stakeholders identified the need to understand the 'full picture' of what they were being asked to do before proceeding with the process to identify sites. For example, they cited that the final version of ENG was not published until June 2010 and the PDG until July 2010, up to six months after their first meetings. While we accept that this is not an unreasonable expectation, earlier draft versions of these documents were shared with the regional MCZ projects and it is our view that no substantive changes were made to the final versions of the documents that would have delayed the projects in delivering their work.
- 3.1.98. These issues highlight the uncertainty under which the regional stakeholder groups developed their recommendations. In some cases, this uncertainty caused reticence amongst stakeholder group members who found the environment challenging and unsatisfactory. However, through project team and facilitator support and innovation, these uncertainties were reduced enough to enable the development of recommendations to continue. As part of this, the projects developed assumptions about the activities that were likely to be able to continue unaffected by the designation of MCZs, and those that were not. The most comprehensive and established list of assumptions is in the Finding Sanctuary 'stakeholder narrative' which is included in its final report.
- 3.1.99. Recognising that work to identify conservation objectives, management measures and components of the Impact Assessment could only be undertaken when features and boundaries were agreed, the regional MCZ projects aimed to achieve stable site recommendations by the third iteration (28 February 2011). All regional MCZ projects achieved this except Balanced Seas for reasons set out in **paragraph 3.1.102**.
- 3.1.100. Each of the regional MCZ projects adopted slightly different approaches and methods to develop site recommendations. Particular differences occurred in the use of specialist computer software which was employed variously by the projects. These differences demonstrated innovation, making best use of regional project teams' expertise. As new approaches were trialled they were shared and then variously adopted across all four projects. Overall, the differences between the projects did not generate delays to MCZ site identification.
- 3.1.101. The identification of site boundaries was not always as precise as it might have been. Some regional stakeholder groups' recommendations were translated by the regional MCZ project teams from boundaries drawn by hand on acetate overlays. In some cases this may have resulted in fine-scale misrepresentation of boundaries by a resolution of hundreds of meters. In our view, more precise identification and representation of boundaries may have led to rMCZs that delivered the

ecological benefits sought while reducing the potential social and economic impacts associated with the sites. We present advice on recommended changes to some boundaries in [Section 4.2](#).

- 3.1.102. JNCC has received comments that rMCZs have been identified in offshore waters in the Finding Sanctuary area that aim to minimise the impacts on UK fisheries interests without similar consideration for non-UK fisheries interests. This interpretation could be due to the lack of direct representation of non-UK fisheries representatives on the Finding Sanctuary Offshore Working Group and that submissions through NCS did not carry equivalent influence to direct representation on site selection, although some site boundaries were moved as a result of specific comments provided through NCS. It was often difficult for stakeholders to understand the format required for NCS comments to be useful to the steering group. Therefore, generic comments that were frequently submitted by NCS were not very useful to steering group members in informing their site selection decision making.
- 3.1.103. The regional MCZ projects identified 30 October 2010 as a cut-off point for receiving significant new ecological data sets. This date was set to enable regional MCZ project teams to process data sets to allow RSG members a reasonable amount of time to use a final data set to develop final MCZ recommendations. After this time they made no commitment to using any new data to inform the developing recommendations. However, new data did become available and were used to add confidence in the evidence base underpinning the final recommendations. This was particularly the case for the Balanced Seas project when a significant new dataset (Regional Environmental Characterisation (REC) Survey data) was published in March 2011 and provided much higher resolution data for broad-scale habitats. To increase stakeholder support and confidence in the data, the REC dataset was incorporated at a late stage to ensure it informed recommendations. This late introduction of data resulted in changes being made to site recommendations through to final submission in September 2011. It also meant the process to identify conservation objectives for some features was delayed beyond the submission of final recommendations (more detail is provided in **paragraph 3.1.152**). Despite incurring delays to the process to finalise sites, the project was commended by the SAP for its flexibility to integrate and use new data.
- 3.1.104. Three of the projects actively communicated the publication of the draft recommendations when they submitted their progress reports to the SAP (30 June 2010, 31 October 2010, 28 February 2011, and 1 June 2011). Net Gain did not publish outputs from the first iteration (30 June 2010) as members of the regional stakeholder group were not content that they had had enough time to undertake an appropriate level of work. Net Gain actively communicated the publication of all subsequent iterations. This enabled the public to see the recommendations and provide information and views on the recommendations to their stakeholder representatives if they wished.

Key messages on the identification of recommended Marine Conservation Zones by the regional Marine Conservation Zone projects

Regional Marine Conservation Zone project recommendations reflect the requirements of the Marine and Coastal Access Act and Defra policy to identify Marine Conservation Zones for rare, threatened and representative marine flora and fauna as well as features of geological and geomorphological interest, whilst taking social and economic impacts (costs and benefits) into account. Approaches differed across the four projects, but they reflected the flexibility expected as set out in the Project Delivery Guidance.

More precise identification and representation of boundaries may have led to rMCZs that delivered the ecological benefits sought while minimising the potential social and economic impacts associated with some sites.

3.1.5 Identification of reference areas

- 3.1.105. Government policy is to ensure that management measures are promptly put in place to provide effective levels of protection for designated sites and to continue to build the evidence base for future designations (Hansard HC 2011). Our advice to Government, set out in the ENG, is that to deliver this policy reference areas are required for examples of each broad-scale habitat and Feature of Conservation Importance (FOCI) in each regional MCZ project area. Due to the rarity and distribution of some features, in some cases the number of options available to satisfy the ENG guidelines is limited, sometimes to one area per region. In combination, these factors mean that the designation of reference areas would have higher socio-economic costs than other MCZs.
- 3.1.106. The PDG does not identify separate requirements for identifying reference areas as we expected them to be treated as part of the overall process to identify MCZs.
- 3.1.107. As the regional stakeholder groups recognised that the identification of reference areas was going to be contentious, the four regional MCZ projects agreed to focus on the other aspects of the work first. This was done in order to be able to make progress and reach some agreement on potential MCZs, which was essential if the ENG guidelines were to be met.
- 3.1.108. We published draft advice on reference areas in October 2010 (JNCC & Natural England 2010). This provided more detail than that identified in the ENG on what the implications of designated reference areas would be and helped the regional stakeholder groups tackle the identification of reference areas.
- 3.1.109. The projects adopted an iterative process of identifying reference areas and reference area options were published on project websites at the submission of the third iteration (28 February 2011) and draft final recommendations (1 June 2011). Each project followed its own process for identifying reference areas and key points are set out below.

Finding Sanctuary

- 3.1.110. The project team developed options for reference areas based on the ENG guidelines at the request of its working groups as a first step.
- 3.1.111. Two joint working group meetings were held, in December 2010 and January 2011, to refine options further before presentation to the local groups and Steering Group in February 2011.
- 3.1.112. The fishing industry representatives stated that they would not be proactively involved in proposing or supporting reference areas. However, they remained present during the reference area discussions, and had the opportunity to participate at any stage. Some input was made, and centred on highlighting impacts that sites might have on the fishing sector.
- 3.1.113. The project highlighted the ENG requirement for reference areas to the local groups in January and February 2011. They were presented with the options developed by the working group and provided feedback as well as alternative options based on their own knowledge. Apart from the Isles of Scilly local group, these were the last local group meetings held and there was no further opportunity for their members to discuss options within those fora. Any comments they wished to make was through their representatives on the joint working group and/or Steering Group.
- 3.1.114. Thirty potential reference areas were included in the submission to the SAP on 28 February 2011.
- 3.1.115. The project team presented the joint working group with 50 further options at the March 2011 meeting. These were refined to 12 sites and the joint working group agreed the final reference area recommendations in April 2011, which were signed off by the Steering Group in July 2011.

3.1.116. During the process to develop reference area recommendations Finding Sanctuary posted draft recommendations on the location of potential reference areas on their website to help ensure stakeholders not involved in the regional stakeholder group were aware of potential locations and their implications.

The Balanced Seas project

3.1.117. The regional stakeholder group started discussions on reference areas in January 2011.

3.1.118. Sub-groups of the regional stakeholder group, the Offshore and Inshore Task Groups, considered options in February 2011 and identified one site as a potential reference area and a further five areas of search that had been discussed as suitable reference area locations. They were catalogued in the third progress report submitted on 28 February 2011 identifying them as having no final agreement from the RSG.

3.1.119. The project team engaged stakeholders at local site meetings in March to help inform the identification of reference areas and at the fourth meeting of the local groups in April 2011.

3.1.120. Stakeholders found the identification of reference areas difficult due to the activity restrictions that would be imposed in the sites if designated as well as not knowing what mitigation might be for other damaging and disturbing activities. Time available to discuss reference areas was also a key concern for members of the regional stakeholder and local groups.

3.1.121. To help progress the identification of sites to meet the guidelines of the ENG the project team identified at least two options for the location of each habitat feature where possible. A number of options were discussed by the regional stakeholder group in late April but, because of time constraints, not all of the options were discussed.

3.1.122. In May, the project team suggested a network of reference areas including sites already discussed. These were discussed at site-specific meetings in July, before being agreed and finalised in August by the regional stakeholder group.

3.1.123. In the final recommendations, 25 reference areas were suggested, capturing 42 of the 45 ENG features within the region.

3.1.124. During the process to develop reference area recommendations Balanced Seas posted draft recommendations on the location of potential reference areas on their website to help ensure stakeholders not involved in the regional stakeholder group were aware of potential locations and their implications.

The Net Gain project

3.1.125. The Net Gain regional stakeholder group began initial planning for reference areas during a limited part of the January 2011 Hub meetings.

3.1.126. A reference area checklist was used to identify which features had limited distribution and therefore which needed to be selected within specific Regional Hub group areas.

3.1.127. This process resulted in 11 locations for reference areas being included within the third iteration report (February 2011), although it was noted that further discussion was necessary around these suggestions and alternative locations.

3.1.128. At the March Regional Hub group meetings time for further planning and plenary discussions on reference areas was very limited. Hub members raised concerns about the short amount of time available for reference area discussions and the approach of looking for individual sites per feature, rather than groupings of features. Net Gain did not provide information on the distribution of features

across the project area to each Regional Hub group, so it was difficult for Hub members to consider the best locations. Therefore, multiple options per feature were not generated, nor were these options based on best available information or data.

- 3.1.129. On the basis that the reference areas identified in the third iteration fell short of satisfying ENG principles the project team asked the StAP to recommend additional areas of search to the Regional Hub groups to overcome the shortfalls. Based on the information presented to it, the StAP was given limited options on where areas of search could be located, thereby unnecessarily reducing the scope and distribution of areas of search prior to consideration by Hub members.
- 3.1.130. The broad areas of search were taken to the April/May 2011 Regional Hub meetings for the members to consider, with some additional suggestions from the work of the Liaison Officers in the North East. This resulted in nine reference areas being included in the draft final recommendations submitted in June 2011, with a good level of support amongst Hub group members.
- 3.1.131. At the request of Hub group members, an extra meeting was organised on 27 May 2011 to explore reference area options in the East of England and Lincolnshire and the Wash Hub areas, especially for the North Norfolk Coast area. Prior to the workshop, the Net Gain liaison officer for the East of England held meetings with Natural England, the Wildlife Trust and National Trust Reserves manager to scope out potential locations in more detail. The additional Hub group meeting also provided opportunity for additional data and feedback to be incorporated on reference areas.
- 3.1.132. Thirteen recommended reference areas were included in Net Gain's final recommendations, with a number of additional options in the Annex which had not reached consensus but provide alternative suggestions for future work.
- 3.1.133. During the process to develop reference area recommendations Net Gain posted draft recommendations on the location of potential reference areas on their website to help ensure stakeholders not involved in the regional stakeholder group were aware of potential locations and their implications.

The ISCZ project

- 3.1.134. The ISCZ project began engaging stakeholders in the process to identify reference areas at the January 2011 RSG meeting when the natural environment RSG members were asked to develop their thinking on reference areas during the workshop and in an extra evening session. More work needed to be done before any proposals could be brought back to the RSG.
- 3.1.135. Eight reference area suggestions were forthcoming from three of the five focus group meetings held after the submission of the third iteration network; two focus groups did not have time to consider reference areas.
- 3.1.136. Nineteen separate reference areas were provided to the May 2011 RSG meeting. The 19 sites were a combination of the proposals from the focus group meetings and suggestions solely from the project team's GIS-based analysis. The project team advised that, if accepted, these would be sufficient to meet the ENG criteria for reference areas (viability, feature coverage).
- 3.1.137. At the May 2011 RSG meeting five options were accepted by the RSG and three options were rejected. There was insufficient time in this meeting for the RSG to consider all of the options, so an additional RSG meeting was scheduled that would address the need to identify reference areas. This meeting was scheduled for June 2011.
- 3.1.138. Between the May and June 2011 RSG meetings, the ISCZ project team developed further potential options for reference areas for the RSG to consider. At the June 2011 RSG meeting a

further five options were accepted by the RSG and three options were rejected. The project team was asked to explore options for reference areas for the features that the project had not met and bring these to the final RSG meeting in July 2011. A sub-group of the RSG was asked to discuss options for two suggested reference areas and bring these back to the July RSG meeting. The RSG wanted it drawn to the attention of the Statutory Nature Conservation Bodies (SNCBs) and SAP that the relatively short length of the ISCZ coastline and its heavy population in places made it difficult to suggest more isolated patches of coastline that are more suited to reference area designation, and that the decisions over reference areas, and the enormity of the task, had been very difficult and led to many disagreements within the RSG. At the final RSG meeting in July 2011 a further three reference areas were accepted, one existing reference area re-located and one rejected.

3.1.139. This process led to a suite of 14 reference areas within the ISCZ final recommendations.

3.1.140. During the process to develop reference area recommendations ISCZ posted draft recommendations on the location of potential reference areas on their website to help ensure stakeholders not involved in the regional stakeholder group were aware of potential locations and their implications.

Key messages on the regional Marine Conservation Zone project process to recommend reference areas

The 65 reference areas recommended by the regional stakeholder groups were identified late in the process with limited opportunities for informed stakeholder engagement in the rationale and supporting evidence base.

As expected, the regional stakeholder groups have taken potential socio-economic implications into account and in many cases they have recommended reference areas that do not satisfy Ecological Network Guidelines. In other cases, they have chosen not to identify sites at all. Therefore, the process to identify reference areas was flawed and failed to deliver recommendations that satisfy JNCC and Natural England expectations. Detail on our conclusions on how the reference area recommendations satisfy the Ecological Network Guidance guidelines are included in [Section 4.1](#).

3.1.6 Identification of conservation objectives

3.1.141. Section 3.5.1 of the PDG states that Natural England and JNCC are responsible for recommending conservation objectives to Government and for providing formal management advice (under section 127 of the MCAA) to Public Authorities which have a duty to further the conservation objectives of MCZs.

3.1.142. Recognising the expertise and experience held within the stakeholder community on how activities take place, and how they could be modified/controlled to achieve practical conservation benefit, the regional stakeholder groups were requested to recommend conservation objectives for all the features proposed for designation in rMCZs. Each of the regional MCZ projects provided draft conservation objectives in their final recommendations (Balanced Seas provided a proportion – see **paragraph 3.1.52**) which Natural England and JNCC have now refined in line with the request from Defra to provide them with our advice on conservation objectives (see [Section 4.2](#) for more detail).

3.1.143. We made a commitment in the PDG to produce guidance in autumn 2010 providing the information and the process to identify those activities that may require management. This included:

- Detailed guidance on the ‘risk-based’ process to identify activities that may prevent conservation objectives being achieved

- Generic matrices identifying the sensitivity of MCZ features to known pressures which may prevent the conservation objective being furthered and
- Generic advice on which activities occurring within the marine environment are responsible for known pressures.

3.1.144. The sensitivity matrices were published in September 2010. Draft Conservation Objective Guidance (COG) was provided to the regional MCZ projects in September 2010 (Natural England & JNCC 2011a). The final version was published in January 2011. Final advice on which activities are responsible for known pressures was published in April 2011 ([Fisheries specific advice](#) (JNCC & Natural England 2011b)) and June 2011 ([Activities advice, excluding fisheries](#) (JNCC, Natural England 2011)). Drafts were shared with the regional MCZ projects and stakeholders for comment prior to finalisation of the advice.

3.1.145. We developed the COG to ensure consistency in identifying conservation objectives and potential management implications as part of MCZ planning by the regional stakeholder groups and the JNCC and Natural England process to provide their statutory conservation advice to Public Authorities once MCZs are designated. However, following the publication of the draft guidance the regional project teams' projects fed back that the process was complex and would be difficult to undertake within stakeholder meetings and on an iterative basis.

3.1.146. When regional stakeholder groups were presented with the COG they agreed that conservation objectives should be identified once they were largely satisfied that they had identified the features to be recommended due to the complexity and time necessary to complete the task. This decision meant that the process and timetable set out in the PDG to identify and refine conservation objectives was unachievable.

3.1.147. Recognising the complexity of the task and time remaining before final submission, regional stakeholder group members identified that JNCC, Natural England and Public Authority staff should have a major role in drafting conservation objectives as they had the relevant expertise and knowledge from their work on advice and management of European marine sites (Special Areas of Conservation and Special Protection Areas). The specific request for support from JNCC, Natural England and Public Authority staff differed between projects. They were asked to:

- Provide advice which was used by the regional project team to develop draft conservation objectives (Net Gain) or
- Undertake the work on their behalf for submission to the regional stakeholder groups for consideration (Finding Sanctuary and Balanced Seas) or
- Work with the regional project team to develop recommended conservation objectives for submission to the regional stakeholder groups for consideration (ISCZ).

3.1.148. The complexity of producing appropriate conservation objectives results from the need to identify the current condition of the features (habitats and species) as 'favourable' or 'unfavourable'. This assessment can be derived either from direct evidence on the condition of a feature or through a risk-based 'vulnerability assessment' approach that assesses the vulnerability of the feature to pressures (from activity information). In the majority of cases direct evidence was not available on the condition of the feature and the draft conservation objectives for the rMCZs had to be derived through a vulnerability assessment.

3.1.149. JNCC, Natural England and Marine Management Organisation (MMO) staff attended meetings arranged by the regional MCZ projects to develop or quality assure the conservation objectives in April and May 2011 (in the case of Balanced Seas, these meetings were held in the last week of June and first week of July 2011). A national 'sense check' was carried out by JNCC and Natural

England staff in June 2011 to ensure consistency in results across the four regional MCZ project areas.

- 3.1.150. As a result of the sense check JNCC and Natural England concluded that inconsistent methodologies had been used across the four regional MCZ projects to assess exposure features to fishing pressures. This would result in the application of inconsistent conservation objectives across all rMCZs. To address this JNCC and Natural England undertook processes to standardise the methodologies used for inshore waters (0-12 nautical miles) and offshore waters (12-UK jurisdictional limits). Standardisation could not be undertaken prior to the provision of initial results to the regional stakeholder groups as time was not available to develop the methodology and run the analysis. Full detail of the methodology used is provided in [Annex 6](#).
- 3.1.151. The initial results were provided to the regional stakeholder groups and, recognising further fisheries standardisation work was to be undertaken, they had an opportunity to either endorse the outputs or not. While the regional stakeholder groups recognised that the JNCC, Natural England and Public Authority staff were well placed to advise on the development of draft conservation objectives, there was frustration that the process was not 'owned' or as stakeholder-led as the rest of the recommendation process (that is, the work to draft the conservation objectives was done outside the regional stakeholder group meetings). There was particular frustration where JNCC, Natural England and Public Authorities provided results that differed from those assumptions on likely management of activities that groups used as a basis for progressing site identification.
- 3.1.152. None of the regional stakeholder groups fully accepted or supported JNCC, Natural England and Public Authority outputs on the grounds that they had different views about the exposure of features to activities occurring. Therefore, the draft conservation objectives presented in the regional MCZ project recommendations reflect the views of the regional stakeholder groups, and not JNCC, Natural England or Public Authorities.
- 3.1.153. The Balanced Seas regional stakeholder group identified a number of feature recommendations in July and August 2011 as it considered the newly available benthic habitat map. As a result, the stakeholder group requested that JNCC and/or Natural England staff draft conservation objectives for newly identified features after the submission of its final recommendations in September 2011. JNCC and Natural England undertook this task, drafting conservation objectives for 26 features in 12 of the recommended sites (that is, a small proportion of the final conservation objectives). This was completed by the end of October 2011 and the regional stakeholder group was given the opportunity to provide comments either in the post final recommendations meeting or in response to the published amendments. No requests were received from regional stakeholder group members for the conservation objectives to be changed.
- 3.1.154. A second version of the COG was published in August 2011 to reflect developing Government policy with regard to establishing an ecologically coherent network of Marine Protected Areas and finalisation on the definition of 'favourable condition' by JNCC and Natural England.

Advice on the regional Marine Conservation Zone project process to recommend conservation objectives

*The regional Marine Conservation Zone project conservation objective recommendations submitted in September 2011 reflect the views of the regional stakeholder groups, and not JNCC, Natural England or Public Authorities. We **note** that further work has been undertaken by JNCC and Natural England to refine the conservation objective recommendations and identify objectives for a proportion of the features from the Balanced Seas project (see [Section 4.2](#)).*

*We **advise** that processes in line with the requirements of the MCAA are put in place to enable our conservation objective advice to be refined as new information becomes available. We **observe** that any changes from the conservation objectives identified by the regional stakeholder groups may lead to a requirement for management that differs from stakeholder expectations.*

3.1.155. The PDG states that the regional MCZ projects should have identified likely management measures for each site by the second iteration (31 October 2011). The conservation objective template includes a section called 'Human Activities'. This section requires the identification of activities that may require management over and above that which is already in place.

3.1.156. The identification of likely management measures is dependent on the identification of draft conservation objectives for each MCZ feature. As conservation objectives were not drafted until April–July 2011 there was limited opportunity for regional stakeholder groups to identify likely management measures. Prior to the publication of the Fisheries-specific advice and Activities Advice, excluding fisheries, in spring 2011, the regional stakeholder groups based the identification of MCZs on their own assumptions about what activities were likely to be able to continue if they were designated.

3.1.157. However, with the support of the Public Authorities each regional MCZ project recommended broad management measures and they were included in the 'Human Activities' section of the conservation objective.

Key messages and advice on the regional Marine Conservation Zone project process to recommend management measures

Key messages

The regional Marine Conservation Zone projects did satisfy Project Delivery Guidance requirements by recommending management measures in their final reports. However, the development of management measures differed from the process and timetable set out in the Project Delivery Guidance.

Little time was dedicated to discussing and identifying management measures as the process was dependent on the identification of conservation objectives which took place between April and July 2011.

Each of the regional Marine Conservation Zone projects did engage the Public Authorities to help develop the final recommended management measures.

It is not possible to conclude whether the MCZs recommended by the regional stakeholder groups would have been materially different if discussions on management measures had taken place earlier in the process. However, it was recognised that further discussion would have led to more detailed assessments and better understanding and support for the measures identified.

Advice

*JNCC and Natural England **advise** Public Authorities that once it is confirmed that sites are to be designated they should consider initiating a programme of stakeholder engagement to identify management measures that will deliver the conservation objectives of designated Marine Conservation Zones and ensure they are understood and as widely supported as possible.*

3.1.7 Production of the regional MCZ project Impact Assessment

3.1.158. The Marine and Coastal Access Act 2009 (MCAA) specifies that In considering whether it is desirable to designate an area as an MCZ, the appropriate authority may have regard to any economic or social consequences of doing so (section 117(7)). To reflect this, the PDG sets out a

requirement that the regional MCZ projects should deliver an Impact Assessment to present the environmental, social and economic impacts (positive and negative) of the sites recommended by the regional stakeholder groups. The Impact Assessment was required to include information and be in a format that satisfied the [Department of Business, Innovation and Skills template](#) (Department for Business, Innovation and Skills 2012).

- 3.1.159. When the PDG was written it was envisaged that the Impact Assessment would be developed by the regional stakeholder groups and submitted at the same time as the regional MCZ project recommendations. However, it was only possible to evaluate impacts once the features, boundaries and conservation objectives of each site were finalised. Due to the large number of sites identified and the fact that the regional MCZ projects finalised their recommendations shortly before final submission on 7 September 2011, the deadline to complete the Impact Assessment was extended to July 2012. Therefore, the Impact Assessment was not developed or submitted in line with the timetable set out in the PDG.
- 3.1.160. The new deadline meant that the Impact Assessment was developed beyond the lifetime of the regional stakeholder groups. The responsibility for its development transferred from the regional stakeholder groups to remaining regional MCZ project staff, overseen by the regional MCZ Project Boards.
- 3.1.161. Regional MCZ project team members gathered information from RSG members, NCSs and wider stakeholders to inform the Impact Assessment throughout the lifetime of the regional stakeholder groups and beyond, until June 2012. Members of the regional stakeholder groups, and NCSs were invited to comment on the Impact Assessment in three periods between 25 November 2011 and 2 March 2012 (a total of 13 weeks). The regional MCZ project teams logged the comments received and identified how they were treated in the Impact Assessment.
- 3.1.162. Some stakeholders raised concerns that the methodologies and scenarios being presented in the Impact Assessment were not appropriate. In some cases, stakeholders questioned why their information had not been presented in the Impact Assessment at all. The regional MCZ project staff handled these concerns by capturing all concerns in a log, identifying how they were addressed. Defra economists were asked for advice on whether they were content that the Impact Assessment satisfied the required standards of the Department of Business, Innovation and Skills and that concerns were addressed correctly. It is our view that the regional MCZ project teams handled these concerns appropriately in the development of the Impact Assessment.
- 3.1.163. The regional MCZ projects submitted their Impact Assessment on 17 July 2012, in line with the revised timetable.

Key messages and advice on the regional Marine Conservation Zone project process to develop the regional MCZ project Impact Assessment

Key messages

It was only possible to evaluate impacts of rMCZs once the features, boundaries and conservation objectives of each site were finalised. Due to the large number of sites identified and the fact that the regional Marine Conservation Zone projects finalised their recommendations shortly before final submission on 7 September 2011, the deadline to complete the Impact Assessment was extended to July 2012. Therefore, the Impact Assessment was not developed or submitted in line with the timetable set out in the Project Delivery Guidance.

Some stakeholders raised concerns that the methodologies and scenarios being presented in the Impact Assessment were not appropriate. In some cases, stakeholders questioned why their information had not

been presented in the Impact Assessment at all. In our view, the regional Marine Conservation Zone project staff handled these concerns appropriately by capturing all concerns in a log, identifying how they were addressed and securing advice from Defra economists on whether the Impact Assessment included the right information and was presented in a way that satisfied Government requirements.

Advice

*In line with advice in **paragraph 3.1.161**, we advise that Defra ensures that the Public Consultation is widely advertised and stakeholders not involved in regional stakeholder groups are given the opportunity to comment on rMCZs and the associated Impact Assessment.*

3.1.8 The delivery of the Science Advisory Panel's responsibilities in the development of regional MCZ project recommendations

3.1.164. The Science Advisory Panel (SAP) was appointed by the Secretary of State (SoS) to provide scientific knowledge, advice, and judgement to assist the regional MCZ projects in identifying MCZs and to the SoS in designating these sites (Natural England and JNCC 2010). Its composition and terms of reference were published by Defra in 2010 (Defra 2010c), which are reflected in section 2.3.1 of the PDG.

3.1.165. A key responsibility of the SAP was to advise the regional MCZ projects on whether the MCZ proposals that they submitted at each iteration (June 2010, November 2010, February 2011 and June 2011) met the criteria in the ENG. The SAP provided advice on each of the regional MCZ projects' submissions was published on Defra's website (Defra 2010c).

3.1.166. On some occasions advice from the SAP was perceived by regional stakeholder groups as overly critical and project team members raised concerns that the SAP did not understand the realities of the participatory process to identify MCZs, balancing the ecological and socio-economic objectives of the Project (Hooper 2012).

3.1.167. Another role of the SAP was to provide advice on the quality of the environmental (but not the economic or social) aspects of the Impact Assessment. As the development of the Impact Assessment was delayed (see **paragraph 3.1.58** the SAP never fulfilled this role. This role was fulfilled instead by JNCC and Natural England.

Were all the required outputs delivered on the final deadline of 31 August 2011?

3.1.168. The MCZ Project required the regional MCZ projects to submit their final recommendations by 31 August 2011. While two of the projects had finalised their reports by this date, they waited for the last project to finish work and submitted their reports collectively on 7 September 2011.

3.1.169. Each of the projects submitted expected outputs apart from Balanced Seas which did not submit draft conservation objectives for 26 of the recommended features in 12 MCZs for reasons set out in **paragraph 3.1.152**.

3.2. Marine Conservation Zone national and international stakeholder engagement

3.2.1 Background

- 3.2.1. The UK Government believes that the success of the Marine Protected Area (MPA) network will be greater if it is well understood and supported by all sea-users (Defra 2010b). JNCC led the engagement of national²² and international stakeholders for the Marine Conservation Zone (MCZ) Project due to its UK-wide remit in accordance with the Project Delivery Guidance (PDG) (Natural England and JNCC 2010) (refer to [Section 3.1](#) for more detail). Natural England supported JNCC in this role and represented the Project regularly, especially in meetings with stakeholders who have an inshore interest.
- 3.2.2. In order to manage MPAs in UK offshore waters and certain areas between 6 and 12nm²³, it will be necessary to seek measures under the EU's Common Fisheries Policy (CFP). To ensure equity for all those that might be affected by any fisheries measures brought through the CFP, it is important that all EU fisheries stakeholders with an interest in MPAs are engaged fairly. It was therefore necessary to ensure that both UK and non-UK stakeholders had the same opportunity for representation during the development of MCZ proposals. Such openness of process is also required under article 7 of the Aarhus Convention (Aarhus Convention 1998) and the Participation Directive 2003/35/EC (European Union 2003).
- 3.2.3. The ability to ensure fair and equitable treatment of all stakeholders was a constant challenge for the regional projects, JNCC and Natural England during the MCZ process. Methods for both direct (regional stakeholder group, RSG) and indirect (named consultative stakeholder, NCS) engagement with the regional projects were established. Periodic updates to specific stakeholder groups were also used to facilitate engagement.

3.2.2 Stakeholder identification and analysis

3.2.4. In September 2009, JNCC contracted ABPmer (ABPmer 2009a) to undertake a stakeholder identification and analysis to identify national and international stakeholders with an interest in the MCZ Project and wider UK MPA projects. In addition, UK Government, Devolved Administration and JNCC contact databases were used initially to identify national and international stakeholders. ABPmer then performed a gap analysis to identify additional stakeholders not already included within these databases. JNCC with support from ABPmer sent an email to those contacts identified informing them of the various MPA initiatives being undertaken across the UK and the role of stakeholder participation in the MCZ identification process. Stakeholders were asked through a web-based questionnaire to indicate:

- Which countries/region(s) they were interested in
- A mechanism by which they would prefer to receive relevant communications and
- Their desired level of engagement.

3.2.5. JNCC passed contact details of those stakeholders that consented to sharing their contact details (and responses to the questionnaire) to the relevant Statutory Nature Conservation Bodies (SNCB),

²² JNCC engaged with stakeholders with a UK-wide interest (interest in three regional MCZ projects or more) and the regional projects would engage with stakeholders with interest in two or fewer regional projects areas.

²³ Within the MCZ project, recommended MCZs have been identified within the [UK's continental shelf](#). In some waters, other Member States have historical fishing rights (between 6 and 12nm) where CFP measures apply.

to the regional MCZ projects and to UK Government and the Devolved Administrations. This enabled appropriate engagement and facilitated communication with stakeholders. JNCC followed up with stakeholders to give those that did not reply to the original mail a second opportunity to do so.

- 3.2.6. A further exercise was undertaken by JNCC in early 2010 to identify international stakeholders through the Institute of European Environmental Policy (IEEP)²⁴. This was carried out to ensure all relevant international organisations and agencies with an interest or operating within UK waters were captured following the original stakeholder identification contract. Any new international stakeholders identified were sent an invitation letter that outlined the available engagement options and they were asked to fill out a questionnaire that informed JNCC how they wished to be engaged.
- 3.2.7. Following communication with some non-UK stakeholder organisations (European Wind Energy Association, International Cable Projection Company, European Anglers Alliance, International Chamber of Shipping, and so on), it was decided between JNCC, the relevant international organisations and their UK representatives that engagement would take place through UK representatives. Members of these non-UK organisations were re-contacted when forming the membership for the UK MPA Stakeholder Forum (see **paragraph 3.2.18** under National stakeholder engagement for more detail).
- 3.2.8. Government bodies were engaged through the UK Marine Biodiversity Policy Steering Group (UKMBPSG). Feedback to the regional projects was supplied through Defra. JNCC and Natural England also arranged periodic meetings with other UK SNCBs and the Devolved Administrations.

3.2.3 Differences in the nature of stakeholder involvement

- 3.2.9. Two options were available for stakeholders to get involved in the MCZ Project:
- Applying for a place on the RSGs²⁵. This mechanism allowed representatives to directly participate in the identification and recommendation of possible MCZs. To ensure sectoral balance, acceptance onto RSGs was determined by the project team/facilitators.
 - Applying to the regional projects to become an NCS (see paragraph 3.1.1). Refer to the regional project reports (Balanced Seas 2011a, Lieberknecht, et al. 2011, Irish Sea Conservation Zones 2011, Net Gain 2011a) for details on national and international stakeholders who engaged in the regional projects either as an NCS or as members of the RSG. Further issues arising from the NCS process are outlined below.
- 3.2.10. Input into the RSG via the NCS process was not as effective as direct representation; however, this was outlined when options were presented to those applying for NCS status. Due to the nature of RSG decision-making, active participation at RSG meetings helped stakeholders represent their sector more effectively than comments provided through the NCS process. Direct participation also helped stakeholders get a better understanding of the steps involved to identify and input to site identification. Stakeholders with NCS status were presented with greater amounts of written material to help inform their opinion and provide their feedback. This caused further difficulty for non-English speakers.
- 3.2.11. Since NCSs were unable to input to RSG recommendations as easily as RSG members, this has had implications for equity in decision making. NCS-type engagement worked most effectively where there was already direct representation of a sector. For national stakeholders this was

²⁴ [IEEP](#) is an independent research organisation concerned with policies affecting the environment in Europe and beyond.

²⁵ Note: places within the regional stakeholder groups were not automatic. The regional projects had strict criteria to ensure balance within the stakeholder groups.

possible through 'umbrella' organisations that were able to a greater or lesser extent to represent their industry. For the fishing sector it was difficult to identify representatives for the different UK and non-UK fishing fleets due to the size and nature of the sector. Many fishers do not belong to a representative association, fishers fishing with different gear types will have very different interests/concerns and there were no associations which work across national administrative boundaries (earlier on in the process) to act on behalf of all EU fisheries stakeholders. This problem was intensified by high levels of fishing activity of non-UK stakeholders in UK waters from several different nations who have different sector representatives within individual countries.

3.2.12. Some difficulties occurred where stakeholders were represented by umbrella groups or where a single stakeholder organisation undertook to represent the interests of the wider sector. These resulted from confidentiality issues (umbrella groups unwilling to divulge information that could potentially be commercially sensitive to individual stakeholders) or conflict of interests (individual stakeholder groups unable to represent the interests of other groups in their sector when they clashed with their own members' interests).

3.2.13. Due to the structure of the RSGs, it was very difficult for JNCC and Natural England to advise the regional projects successfully regarding group membership of the RSGs. When certain RSGs made room for non-UK stakeholder membership, there were complaints of imbalance and delays in group progress, note detail contained in regional MCZ project reports (Balanced Seas 2011a, Lieberknecht, et al. 2011).

Key message

The named consultative stakeholder process - a status set up to allow regional, national or international stakeholders who were not able to attend regional stakeholder group meetings to play an important, but less intensive, role in the development of MCZ recommendations - was inherently less effective than regional stakeholder group membership as a means of representing stakeholder interests because of lack of direct representation within the decision-making groups and logistical difficulties in handling the large amounts of information and feeding into the groups. This was partially mitigated by some stakeholders through the presence of 'umbrella' organisations that were able to represent the interests of their sectors within regional stakeholder groups.

3.2.4 How national and international stakeholders were engaged throughout the MCZ process

3.2.14. Seeking input and building support for MCZs from national and international stakeholders has centred on three key phases:

- Asking stakeholders active within the Defra marine area²⁶ to provide relevant data (ecological and/or socio-economic) that could be used in the selection of MCZ sites and/or the development of site Impact Assessments
- Getting stakeholders involved in the decision-making processes, in particular the implementation of the Ecological Network Guidance (ENG) and the Conservation Objective Guidance (COG) (Natural England & JNCC 2011a) for the identification and recommendation of MCZs and draft conservation objectives
- Informing stakeholders of the latest progress with the MCZ Project, site iterations and Impact Assessment work.

²⁶ The Defra marine area includes English inshore waters and English, Welsh and Northern Irish offshore waters.

3.2.15. National and international stakeholders were involved since the inception of the regional projects. National stakeholders were engaged through representative sector group meetings, individual meetings with JNCC and Natural England upon request and through the regional projects. Gathering of data from the national fisheries sector was done through the FisherMap process that involved one-to-one structured interviews with individual fishermen (see **paragraph 3.1.83**). International fisheries stakeholder engagement through Regional Advisory Councils (RACs)²⁷ began in 2009 and has continued to date (March 2012). Starting in August 2010, international fisheries stakeholder engagement also took place through country-specific meetings and through active participation by the stakeholders in the regional projects (see [Annex 3](#) for details of non-UK fisheries engagement).

3.2.5 National stakeholder engagement

3.2.16. During the MCZ Project, JNCC and Natural England held a regular cycle of meetings with national stakeholders to keep them updated on the MCZ Project and to seek their input and support. Additionally, many national stakeholders have also occupied roles on RSGs or local groups within the regional projects and have been able to input at a regional level. Many of the national stakeholders with places on the RSGs have dedicated a single person to be their focal point for all the regional projects.

3.2.17. JNCC and Natural England engaged with national stakeholders through:

- Individual meetings with national stakeholders who requested MCZ updates. Such meetings were often sector-specific and included organisations such as Renewable UK, Oil and Gas UK, British Aggregates Association, the Angling Trust, UK Major Ports Group, British Ports Association, The Wildlife Trust, Marine Conservation Society, the National Federation of Fishermen's Organisations, etc. Regular meetings with broader 'umbrella'/sector representative organisations to discuss key issues and concerns. Such organisations include:
 - Wildlife and Countryside Link²⁸ and its member organisations.
 - Industry representatives of the Seabed User and Development Group (SUDG)²⁹
 - Members of the MPA Fishing Coalition (MPAC) which over the course of the MCZ Project expanded its membership to non-UK fisheries representatives³⁰

3.2.18. JNCC also organised a UK MPA Stakeholder Forum meeting on 18 October 2010, to provide national and international representatives of different sectors with information about the work of the MPA projects in the UK (including the MCZ Project) and the opportunity to know more about key strategic issues (JNCC 2010d). Although the Forum meeting, which took place in October, was successful it was not possible to organise a second meeting during 2011 due to lack of UK-wide input that was sought by stakeholders, and due to the general freeze imposed by Government. JNCC explored the possibility of merging the role of the UK Stakeholder Forum with the Marine Management Organisation's (MMO) Stakeholder Focus Group. However, the Stakeholder Focus Group does not have sufficient scope to satisfy UK and international stakeholder needs.

²⁷ The [RACs](#) were set up by the European Commission to encourage participation by the fisheries sector in the formulation and management of the Common Fisheries Policy (CFP). The RACs represent management units based on biological criteria. They cover sea areas that are the concern of at least two Member States.

²⁸ [Wildlife and Countryside Link](#) is an umbrella organisation that brings together voluntary organisations in the UK to protect and enhance wildlife, landscape and the marine environment.

²⁹ The [Seabed User and Developer Group](#) is an umbrella organisation representing a large number of non-fisheries marine industries

³⁰ Members of MPAC include fisheries representatives from the UK, France, the Netherlands, Belgium and Ireland. Since August 2010, JNCC, Natural England, Defra and the Marine Management Organisation (MMO) have held regular meetings with MPAC to discuss the development of the MCZ project and progress on Natura 2000 designations in Secretary of State waters.

- 3.2.19. Engaging with stakeholder representatives and any further stakeholder organisation was found to be the best solution to support the MCZ Project. Due to resource constraints, it was not possible to ensure that RSG representatives were feeding back to their wider sector. JNCC and Natural England overcame this by providing communication updates through the MCZ newsletter and engaging with sector representatives as requested.
- 3.2.20. Concerns raised by stakeholders were fed back to Defra, the MCZ Project Board and the regional projects where relevant. Although not all concerns could be acted upon for example, because of tight time frames for the project, modifications to engagement and communication documents were made. Such modifications included clearer and more transparent provision of information, increased engagement at a national level and more resources from JNCC and Natural England allocated to the projects to try to meet deadlines and support production. JNCC and Natural England are also continually improving datasets to improve the quality of information on sites identified.

Key message

Due to the scale of the project, engaging national and international stakeholders through representative organisations was the most efficient method identified for engagement. Further, regular productions of the Marine Conservation Zone newsletter supported wider stakeholders to keep up to date with the Project's process and provide stakeholders with a point of contact should they require it.

3.2.6 International fisheries engagement

- 3.2.21. In order to manage MPAs in UK offshore waters and certain areas between 6 and 12nm³¹, it will be necessary to seek measures under the EU's Common Fisheries Policy (CFP). Thus, it was important that the process and outcomes were fair to all EU fisheries stakeholders with an interest in the Defra marine area. Under the terms of the PDG, it was agreed that JNCC would co-ordinate with the regional MCZ projects to recruit international stakeholders to engage in the process and to support the regional MCZ project teams to enable these stakeholders to input their data. However, there was a lack of detailed guidance on how to ensure equity of opportunity for non-UK stakeholders in regional stakeholder group decision-making.
- 3.2.22. To support international fisheries engagement, JNCC have provided the RACs with UK MPA updates (including MCZ) since spring 2009. Details of international contacts interested in getting involved in the MCZ Project were passed to the regional projects by JNCC during the period from spring 2010 to late autumn 2010. Country-specific meetings were held from summer 2010 following the employment by JNCC of international liaison officers. At these meetings the JNCC liaison officers explained the MCZ process to both representatives of the fishing industry and individual fishermen. We also presented project progress updates to those stakeholders who attended. Following the update presentations after the first and second iterations, there was increased interest from international stakeholders, leading to more requests to participate in the RSGs. [Annex 4](#) outlines international stakeholder engagement meetings in which JNCC was involved.
- 3.2.23. JNCC and Natural England are partners in an EC part-funded, international collaborative, Marine Protected Areas in the Atlantic Arc (MAIA) Project³². Aspects of this project provided JNCC with additional opportunities to engage with European fisheries representatives (within the Atlantic Arc

³¹ Within the MCZ project, recommended MCZs have been identified within the [UK's continental shelf](#). In some waters, other Member States have historical fishing rights (between 6 and 12nm) where CFP measures apply.

³² The MAIA project is an EU part funded INTERREG project between the UK, France, Spain and Portugal – <http://www.maia-network.org/homepage>.

region) in the various UK MPA projects. Partner countries involved in this project are France, Spain, Portugal and the UK. On 27 September 2011 JNCC presented UK MPA stakeholder engagement processes to MAIA partners and wider national and international stakeholders and MPA specialists at a conference in Devon (see MAIA project website for proceedings of the conference (MAIA 2010)). The MCZ Project process was also outlined and discussed at this conference.

- 3.2.24. Due to resource issues within JNCC there were delays in initially engaging the non-UK sector on a country-by-country basis. Some stakeholders had difficulty in engaging in the RSGs due to: the selection process for representation on the RSG and specifically the project teams' desire to ensure sectoral balance (see paragraphs 3.2.9 to 3.2.13); difference in the nature of stakeholder engagement; and language barriers. JNCC sought to overcome such complications by providing non-UK fisheries stakeholders with regular communication updates and engaging with the RACs. Some overview information on the MCZ Project and wider UK MPA projects was also translated into various languages. Upon engaging in country-specific meetings with the French fishers, JNCC provided a presentation in French. Spanish and German fishers did not respond to requests for engagement during the period of the MCZ Project in which the RSGs existed. Other Member States who engaged in the project were engaged in English (see [Annex 3](#) for more detail on non-UK fisheries stakeholder engagement). Issues arising from delayed engagement may have been intensified by the rapid timeline of the MCZ Project, which did not give non-UK stakeholders time to provide sufficient resource for the rapidly developing project.
- 3.2.25. The aforementioned concerns (tight time frames, difficulties in engaging in the RSGs and language difficulties), were raised by non-UK stakeholders. JNCC raised these concerns with the regional projects, the MCZ Project Board and Defra and a lot of resources from JNCC were put into non-UK stakeholder engagement to try to support the project. However, not all concerns (translation of regional project material in time for comment and additional time to engage in the projects) were possible to act upon.
- 3.2.26. Input and engagement of information from the non-UK fishing sector was at the level of national and regional federations rather than with fishers. This was not equivalent to the FisherMap process in the UK, which allowed engagement with individual fishers. It is not known to what extent individual fishermen were made aware of the process or whether they felt their information and views were represented.

Key message

It has not been possible to ascertain whether regional stakeholder group membership selection sufficiently facilitated equitable treatment of stakeholders since invitations were at the behest of regional stakeholder groups and not JNCC and Natural England, albeit with the timeframes and resources provided much effort was dedicated to try to support non-UK stakeholder engagement.

Delays in country specific engagement; tight time frames, difficulties in engaging in the regional stakeholder groups, coupled with vast quantities of material from the different regional projects and language problems, made it difficult for non-UK fisheries stakeholders to engage fairly in the project. This problem was exacerbated by their being several MPA projects running concurrently, each with their own specific delivery guidance. For logistical reasons, JNCC engaged stakeholders on a UK-wide, multi-project, rather than project-specific basis. Although this was generally appreciated by stakeholders, it also served to increase the complexity of the message. Full engagement of non-UK stakeholders in multiple project areas was often difficult due to an onerous demand on financial/staff resource.

Both national and non-UK stakeholders required support to understand the material that has been produced by the MCZ Project (summary documents highlighting what is of most interest to individual

Member States). This is particularly important for non-native English speakers. Accurate document translation of material would have been beneficial,

3.2.7 Summary and advice to Defra

- 3.2.27. In order to manage MPAs in UK offshore waters and certain areas between 6 and 12nm, it will be necessary to seek measures under the EU's Common Fisheries Policy (CFP). It is important in this context that all fishing fleets with an interest in MPAs are treated equitably regardless of national origin. Due to risk of challenge regarding equity in MCZ decision making, an assessment of the risks associated with achieving site management through the CFP is **advised**.
- 3.2.28. In order to ensure stakeholder involvement during the MCZ consultation and designation phase, it is important that JNCC and Natural England continue their engagement efforts with national and international stakeholder organisations. Although stakeholders voiced concerns about the Project, good relationships have been formed through engagement and are important to continue.
- 3.2.29. Both national and non-UK stakeholders require support to understand the material that has been produced by the MCZ Project (summary documents highlighting what is of most interest to individual Member States). This is particularly important for non-native English speakers. Accurate document translation would be beneficial.
- 3.2.30. Although country-specific meetings coupled with the NCS process were less effective than active RSG participation in allowing stakeholders to participate in the MCZ process, these mechanisms did allow stakeholders to feed into the process and follow Project development. Such mechanisms (country-specific meetings and the NCS process) greatly supported the Project and non-UK fisheries engagement.
- 3.2.31. Presentation of project updates to non-UK stakeholders in their native language should be continued to support engagement and understanding of developments of the Project.
- 3.2.32. There is limited understanding of the MCZ Project beyond stakeholders/stakeholder representatives directly involved with the regional MCZ projects. JNCC and Natural England **advise** that continued effort is made to publish relevant articles in sector-specific media such as newsletters and trade publications.
- 3.2.33. For future projects with a marine nature conservation element JNCC and Natural England **advise** coordinated engagement of non-UK stakeholders to streamline engagement, ensure understanding and build support for initiatives.

4 Advice on regional MCZ project recommendations

- 4.1 This section provides JNCC and Natural England's assessment of the recommended Marine Conservation Zones (rMCZs), the features and their conservation objectives. It also provides a response to the report of the Science Advisory Panel (Science Advisory Panel 2011a).
- 4.2 JNCC and Natural England provide advice to the regional MCZ projects on how to select areas as MCZs to contribute to the UK MPA network in the Ecological Network Guidance (Natural England and the Joint Nature Conservation Committee 2010) and how propose conservation objectives for features in the Conservation Objective Guidance (Natural England & JNCC 2011a).
- 4.3 Section 4.1 assesses whether the guidelines in the Ecological Network Guidance have been met at a site-specific and feature-specific basis. For each site the possible benefits of designation are described as are any implications of not designating the site. These assessments are summarised in the section but the detailed site tables are provided in annex 5. At the level of the Defra marine area, JNCC and Natural England describe how the extent to which the Defra network design principles have been fulfilled and provide options for addressing any gaps or shortfalls.
- 4.4 Section 4.2 provides JNCC and Natural England's advice on which conservation objectives we believe should be changed. This advice stems from us each checking the vulnerability assessments for rMCZs within our geographical remit and including standardised fisheries information.
- 4.5 Section 4.3 provides JNCC and Natural England's response to the Science Advisory Panel's report on the rMCZs (Science Advisory Panel 2011a). It outlines where we agree or disagree with their comments and addresses any recommendations they made to JNCC and Natural England.
- 4.6 Section 4.4 provides Natural England's review of the regional MCZ projects' proposals for highly mobile species not listed for representativity in the ENG.

4.1 JNCC and Natural England's assessment of the regional Marine Conservation Zone project recommendations against the Ecological Network Guidance

Advice to Defra

*JNCC and Natural England **advise** that overall the recommendations submitted by the regional Marine Conservation Zone (MCZ) projects, when combined with the contribution of existing Marine Protected Areas (MPA), have met many of the network design principles and represent good progress towards achieving of an ecologically coherent network and a balance between the ecological requirements of the network and minimising impact on socio-economic interests. Therefore JNCC and Natural England support the recommendations submitted by the regional MCZ projects, subject to the additional recommendations proposed in this advice.*

*JNCC and Natural England **advise** that the degree to which the network design principles have been achieved will ultimately depend on the final suite of recommended Marine Conservation Zones (rMCZs) put forward for designation.*

*JNCC and Natural England **advise** that Defra should further consider whether geological or geomorphological features are adequately incorporated in rMCZs for geo-conservation in the marine area and that geological stakeholders should be involved in any further process.*

*JNCC and Natural England **advise** that some features or sites may appear to have less information than others in terms of contribution to the network design principles and ecological benefits; however, this may be a reflection of limited data and evidence rather than an indication of their importance.*

*Natural England **advise**s that Defra and Natural England agree an approach to deal with the issue of overlapping designations between Sites of Special Scientific Interest (SSSIs) and MCZs and then apply this approach to the relevant features.*

*JNCC and Natural England **advise** that an approach will need to be agreed with Defra to deal with the issue of overlapping designations between Marine Conservation Zones, Special Areas of Conservation (SAC) in particular to assess if the alteration of the SAC boundaries is the best way forward for the protection of the relevant features and the simplification of the designation processes.*

*JNCC and Natural England **advise** that the current recommendations include some features that could be seen as gaps within the Natura 2000 network (of SACs and Special Protection Area (SPA) network for birds) as those features are either not currently represented within the Natura 2000 network within the respective regional seas or might fulfil the wider aims of the Birds Directive. Therefore, JNCC and Natural England **advise** that an approach for the assessment of MCZ proposals in relation to potential gaps in the Natura 2000 network will need to be agreed with Defra.*

*A new base map of Ecological Network Guidance (ENG) features which takes into account the results of the evidence assessment and any new data which becomes available to JNCC and Natural England in the future is needed. JNCC and Natural England **advise** that a further assessment will need to be undertaken on all features within MCZs and existing MPAs after the submission of our advice in July which includes new information from the evidence reviews ([Section 5.1](#)); any suggested changes to the feature and site recommendations following the results of our assessments on site/feature recommendations; and any new evidence gathered from survey work ([Section 5.3](#)) and the Defra contract MB0116 'in-depth review of evidence assessment'. The new base map can then be used to re-run the analysis of the contribution of*

existing MPAs and then recalculate replication, adequacy, viability and connectivity. We **advise** that further work will need to be undertaken to fulfil the remaining gaps on recommended MCZs taking into account biogeographical considerations and to inform the progress towards the development of an ecologically coherent network.

JNCC and Natural England **advise** that with regards to the achievement of the ENG guidelines, the largest gap is around 'the protection principle' as there is a shortfall on the overall composition, design and viability of the recommended reference areas. JNCC and Natural England **advise** that the protection principle is an intrinsic part of the development of the MPA network. A further assessment of the process and suitability of current proposals should be undertaken, in particular to incorporate new evidence available from the current surveys, data mining and other sources.

Key messages

Overall the recommendations submitted by the regional MCZ projects, when combined with the contribution of existing MPAs, have met most of the network design principles and represent not only good progress towards the achievements of an ecologically coherent network but also a balance between the ecological requirements of the network and minimising impact on socio-economic interests.

The degree to which the network design principles have been achieved will ultimately depend on the final suite of rMCZs put forward for designation.

[Section 4.1](#) and the assessments in [Annex 5](#) flag up the ecological benefits of the designation of the features in terms of contribution to the network design principles and wider ecological considerations.

There are some errors and discrepancies in the data submitted by the regional Marine Conservation Zone projects (see Methodology – **sub-section 4.1.3**). The advice provided in [Section 4.1](#) and [Annex 5](#) takes into account the differences in the data presented in the regional MCZ project reports versus the original data supplied to the regional MCZ projects by JNCC and Natural England. At this stage of the process we have had to rely upon the data extracted from the Selection Assessment Documents rather than recalculating them.

Overall, the recommendations meet the guidelines on representativity, replication and adequacy provided in the ENG for most broad-scale habitats at regional MCZ project level.

Overall, if the recommendations for broad-scale habitat across all four regional MCZ projects are combined and the network design principles are applied at the wider MCZ Project area, the minimum guidelines for adequacy are achieved for all but six broad-scale habitats.

The degree to which the guidelines for the representativity and replication design principles have been achieved for habitat and species Features of Conservation Importance varies between projects. Generally speaking the replication guidelines were achieved, although some habitat and species Features of Conservation Importance are not represented or fall below the minimum replication guideline. Adequacy of Features of Conservation Importance is assessed through meeting replication, viability and connectivity and so is not achieved for those features where these guidelines have not been sufficiently met.

The viability guidelines have been achieved for most rMCZs with the exception of recommended reference areas and some inshore sites. The ENG advises viability should be assessed by the size of the site itself rather than the broad-scale habitat within the rMCZ or reference area. It is apparent there are some small patches of broad-scale habitat which may not be suitable as features for designation. Uncertainty around the size of broad scale habitat size increases in instances where the habitat has been mapped using modelled data only. Where JNCC and Natural England have advised that a feature is not designated for this reason, expert judgement has been used and the reasoning is fully explained in the narrative for each

site assessment in [Annex 5](#) for DEFRA to consider. It should be noted that there may be other small areas but this has not been systematically checked as it's not a requirement of the ENG.

Overall, the network design principle of connectivity has been achieved with most sites spaced between 40 and 80km apart.

It appears that decisions on boundaries and location of sites were mainly based upon socio-economic considerations and took a great deal of negotiation between stakeholders. It is not always clear if a margin or buffer was considered in setting the boundaries to ensure the recommended feature for designation has appropriate protection. Those instances where we feel a sufficient buffer has not been provided are highlighted in the site assessments in [Annex 5](#).

We cannot always assess whether the guidance provided in the ENG on areas of additional ecological importance was used in the process as a driver for the decisions on locations of sites, but nevertheless we have assessed whether a site overlaps with an area of additional ecological importance (see [Annex 5](#)). Information on such ecologically important areas was provided by JNCC and Natural England used by regional steering groups during discussions on the location and final shape of site boundaries, in particular if a location could be considered to have a greater contribution than other areas in terms of biodiversity or ecosystem function. As a result, some of the rMCZs overlap, partially or in their entirety, with areas of high benthic biodiversity, and/or high pelagic productivity or other ecological considerations.

Information on the scientific value of sites was not always considered in stakeholder discussions, and overall there is little mention of this within the regional MCZ project reports or the site Selection Assessment Documents. Regardless of whether the scientific value of a site was the driver for a location being selected for an MCZ, some of the rMCZs have been well studied and could have high value for scientific research. Reference areas will also contribute to the scientific value of the recommendations by providing a reference against which to compare other areas and assess the effects of certain pressures. The sites which have been particularly well studied, and therefore are of scientific value, have been highlighted in [Annex 5](#).

There are some gaps or shortfalls in the recommendations mainly due to the uncertainties on the feature evidence presented to the regional steering groups, and the uncertainties of the socio-economic consequences of a feature or site being put forward for designation. The largest shortfall is around the recommendations of reference areas – specifically for the network design principles of representation and viability.

Within England's territorial waters, Natural England has not systematically assessed all rMCZs to see whether changes could be made to maximise potential conservation benefits. However, in the process of writing this section it became apparent that for some rMCZs small changes to boundaries of features would help to achieve the network guidance criteria and potentially fill gaps elsewhere, and that Natural England should highlight this to Defra. Where Natural England has suggested changes, the expected stakeholder response, where known, has also been stated.

Within offshore waters, JNCC has considered where alterations could be made to sites which could maximise conservation benefits and contribute towards the achievement of the network guidance criteria. However, changes have only been proposed where we are indeed highly confident in the presence and extent of a feature and/or can justify any proposed changes.

The current recommendations include some features that, if their presence is confirmed in the evidence assessment ([Section 5.1](#)), would be seen as gaps within the SAC or SPA network as those features are not currently represented within the SAC network within the respective regional seas, and so should be considered for protection under the Habitats or Birds Directive. These proposals should be evaluated to

ascertain if the features should be protected within a SAC rather than within a MCZ as they are not currently represented within the Natura 2000 series. Further detail on highly mobile species proposed is in [Section 4.4](#).

The regional project proposed mobile species for designation as described in the ENG for specific mobile species. Some regional projects have also suggested adding additional mobile species which are not listed in the ENG, where it is considered a site could offer them some conservation benefit. Where regional projects recommended a non ENG feature, these have been included in the tables, but the representatively is stated as non ENG feature and no assessment for replication, adequacy or viability was undertaken. However, any other information relevant to them was included where necessary.

4.1.1 Aims of this section

To assess the regional Marine Conservation Zone (MCZ) project recommendations specifically in relation to the guidelines on the Defra network design principles (Defra 2010b) provided in the Ecological Network Guidance (ENG) (Natural England and the Joint Nature Conservation Committee, 2010) and any additional advice we might wish to provide to support the Ministerial decision.

4.1.2 Introduction

4.1.1 Defra requested JNCC and Natural England to provide advice on the regional MCZ project recommendations, including any potential additional advice and/or options on the recommendations (see [Section 1](#)).

4.1.2 We have reviewed the information and provided our views on the rMCZ proposals submitted by the four regional MCZ projects, including any additional advice, and suggested amendments where appropriate. To facilitate Ministerial decisions on the designation of MCZs we have assessed the progress towards achieving the network design principles and the further considerations outlined in Defra Guidance Note 1 (Defra 2010b) and interpreted in the ENG (Natural England and the Joint Nature Conservation Committee, 2010). These principles are described in [Section 2](#) of this joint JNCC and Natural England advice package. Assessments against the ENG criteria have been carried out on features and sites at the regional MCZ project (see Methodology – **sub-section 4.1.3**).³³ We have also considered the importance of a site in the wider context of the Defra marine area and, where data has been available, the biogeographic area.

4.1.3 We believe a further assessment at a biogeographical level is important to ensure the recommendations are capturing a range of features within each biogeographical area and therefore increasing the representative range of the ecological variation present in our seas. The consideration of biogeographical variations also aligns with the assessment undertaken by Charting Progress 2 (UKMMAS 2010) and assessing our progress towards meeting the obligations of the Habitats Directive³⁴, and it will have an important role on the implementation of the Marine Strategy Framework Directive (MSFD)³⁵. Whilst the ENG did not include a specific principle on biogeography, it clearly recommended the use of biogeography as a tool to aid the planning and identification of MCZs. Throughout the process, JNCC, Natural England, and the Science Advisory Panel (SAP) advised the regional MCZ projects to take account of biogeographical variations as much as

³³ Biogeographical level is the division of sea areas based on physical and biological features such as tidal fronts and seabed flora and fauna.

³⁴ http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

³⁵ http://ec.europa.eu/environment/marine/index_en.htm

possible, and the MCZ final reports and Selection Assessment Documents (SADs) made reference to the regional seas where recommended sites are located.

- 4.1.4 The focus of the current section is to assess the regional MCZ project recommendations, specifically in relation to the network design principles of representativity, replication, adequacy, viability, connectivity, protection and the use of best available evidence. The assessment accounts for the contribution of existing Marine Protected Areas (MPAs) (Natural England & JNCC 2012h) and considers areas of additional ecological importance, general scientific value of sites, the suitability of site boundaries, any geological and geomorphological features of interest present within a rMCZ, and also wider ecological considerations where known and where appropriate.
- 4.1.5 The analysis provides an assessment of the degree to which the regional MCZ project recommendations meet the guidelines provided in the ENG when combined with the contribution of existing MPAs, and therefore meeting the requirements of the Marine and Coastal Access Act (MCAA) (Natural England and the Joint Nature Conservation Committee, 2010). As well as satisfying the requirements of the MCAA (see [Section 2](#)), the rMCZs and existing MPAs will also potentially contribute to other international obligations such as the Convention for the Protection of the marine environment of the North-East Atlantic (OSPAR convention) and the MSFD (see section 6.1).
- 4.1.6 The assessment is based on the complete set of rMCZs and recommended reference areas (together with existing MPAs, irrespective of their designation status) rather than considering each rMCZ and recommended reference area in isolation.

4.1.3 Methodology

- 4.1.7 This methodology gives an overview of the key outputs and the process undertaken for the assessment; however, the paper 'Approach to develop section 4.2 – Advice on MCZ recommendations' (JNCC & Natural England 2012 in press) was developed by JNCC and Natural England to describe the approach to be followed for assessing and providing our views on the regional MCZ project recommendations. This paper should be referred to in addition to the shortened methodology provided here. The ENG (Natural England and the Joint Nature Conservation Committee, 2010) provides the method of how to assess whether the recommendations meet the guidelines for the network design principles and should also be referred to for detail, although the key guidelines are briefly explained below.
- 4.1.8 This assessment does not duplicate the information provided in the regional MCZ projects' final reports. It assesses the degree to which the rMCZ recommendations meet the guidelines in the ENG at a regional MCZ project level, as well as considering the importance of a feature or site at a wider scale (that is, the whole MCZ Project area) where possible, and, where data are available, the Charting Progress 2 regional seas (see full explanation in the paper named above and **Figure 6** below). The advice considers each marine feature recommended for designation (both those listed in the ENG and non-ENG features) packaged at a site level, highlighting the ecological advantages each rMCZ could offer in terms of its contribution to an ecologically coherent network as defined by Defra Guidance Note 1 (Defra 2010b).
- 4.1.9 The tables and narratives in [Annex 5](#) are populated with information primarily from the regional MCZ project reports, in particular the individual rMCZ and recommended reference area site assessment documents, the assessment of the contribution of existing MPAs to protecting features listed in the ENG carried out by JNCC and Natural England, our confidence assessment ([Section 5.1](#)) and conservation objectives assessments ([Section 5.2](#)). Recommended reference areas that are located within an rMCZ, have been assessed using a shortened recommended reference area table within that rMCZ section. Standalone recommended reference areas are considered to be rMCZs and so

have been assessed as such using the full assessment table, and these contribute to adequacy and replication targets.

4.1.10 Please note that for sites proposed in the Balanced Seas region which include features defined through the Regional Environmental Characterisation (REC) work, Natural England have used in this section the back-translated broad-scale habitat classifications (subtidal sand, subtidal mixed sediment, and subtidal mud) to calculate site contributions to the ENG. This is because the Balanced Seas RSG provided conservation objectives for these features and included them in the adequacy assessments. This is recognised as a limitation, because the contribution of translated REC features to broad-scale habitat targets seems unlikely (as indicated by the Balanced Seas amendments report (Balanced Seas 2011b)), given our knowledge of the features at these sites. However, it should be noted that this limitation is not considered significant because in all cases, the exclusion or inclusion of the back-translated REC features in network design principle calculations does not determine whether the ENG guidelines are met overall.

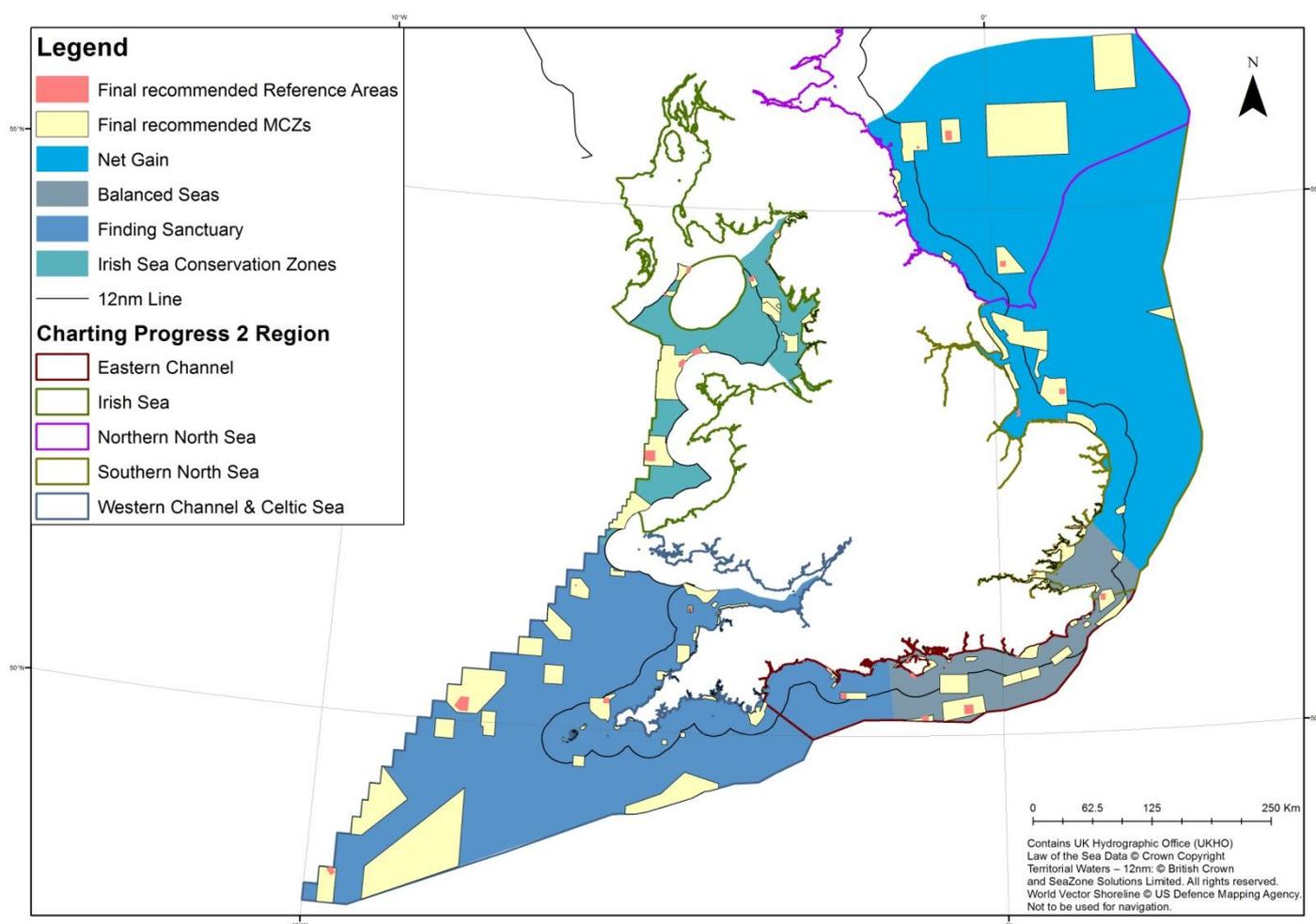


Figure 6 Map showing the regional MCZ project recommendations for MCZs with the administrative boundaries for the whole Defra marine area and boundaries for the regional MCZ project areas and Charting Progress 2 regional seas

4.1.11 The ENG Assessment: The main assessment on whether the ENG guidelines have been met utilised the data provided by the regional MCZ projects, and involved recalculating some of the

network statistics reported in the regional MCZ project reports. An outline of the method is summarised below:

- **Representativity and replication.** The ENG states that to be representative an MPA network needs to protect the range of marine biodiversity found in our seas, and all features should be replicated in order to spread and safeguard against the risk of damaging events. In order to meet the guidelines for representativity, examples of each ENG feature should be recommended in at least one rMCZ as well as being protected within existing MPAs in each MCZ project region. The replication guidelines indicate that each regional project area should have at least two separate examples of each broad-scale habitat and between three and five separate examples of Features of Conservation Importance (FOCI) where their distribution allows (Natural England and the Joint Nature Conservation Committee, 2010).

JNCC extracted a full list of recommended marine features and their conservation objectives for each rMCZ from the regional MCZ project final recommendation reports. Following the guidelines outlined in the ENG, these data were used to assess representativity and replication for all ENG features.

Previously, JNCC and Natural England provided data to the regional MCZ projects on the contribution of existing MPAs to protecting features listed in the ENG (Natural England & JNCC 2012h), and the information from this Gap analysis was taken into account in the MCZ advice 4.1 assessment. In addition, for features which have not been represented at all, we referred to the JNCC and Natural England survey data to determine whether or not any records of the feature actually occurred in the region. If no records of the feature were found, then the representativity guideline for that feature was considered inapplicable in that region. We assessed representativity and replication at the regional MCZ project scale and, where data were available, the importance of a site at the wider scale (see **paragraph 4.1.8**).

- **Adequacy.** Adequacy for FOCI was determined using the guidelines on replication (see above), viability and connectivity, as described in the ENG. However, as the process for assessing FOCI adequacy at a regional scale was not clearly defined in the ENG there was a slight difference in approach between inshore and offshore waters. For offshore sites (JNCC) the assessment was done at a regional level throughout [Annex 5](#) whereby adequacy was considered met and if replication, connectivity and viability was met across the region. However, Natural England considered FOCI adequacy at a site specific level, whereby adequacy was achieved if replication, connectivity and viability of that individual site was met. However, a regional perspective was then considered for the overall assessment presented in **Table 4** – for FOCI feature adequacy to be met in the region, replication, connectivity and viability for that feature across the region had to be met. Therefore, the information in Table 4 appears slightly different to the individual site feature assessments in [Annex 5](#).

Adequacy for broad-scale habitats (BSHs) is determined by calculating the proportion of each habitat protected within each regional MCZ project area and used the following datasets:

1. **The total area of each broad-scale habitat protected in rMCZs**

These data were extracted from the site assessment documents in the regional MCZ project reports. None of the area data for BSHs in rMCZs have been recalculated by JNCC and Natural England. Deriving new area data in geographic information system (GIS) would require a new habitat map to be created, incorporating the spatial datasets submitted by the regional MCZ projects, excluding any data in which we have no

confidence. For instance, there are some cases where we have no confidence in the data/evidence used by the regional MCZ projects to determine the presence and extent of ENG features (see [Section 5.1](#)). We **advise** that this assessment needs to be carried out in the future (see Summary – **sub-section 4.1.7**).

2. The area of each habitat already protected in existing MPAs

JNCC and Natural England provided data to the regional MCZ projects on the contribution of existing MPAs to protecting features listed in the ENG (Natural England & JNCC 2012h), so that the regional MCZ projects and stakeholders could focus their efforts on addressing any shortfalls in the network, using rMCZs. The Project Delivery Guidance (PDG) allowed regional MCZ projects to incorporate local datasets into the data provided by JNCC and Natural England and so the regional MCZ projects occasionally modified these data. This has been taken into account in the assessment for [Section 4.1](#). The issues created by the differences in data will be addressed when a further assessment is carried out taking into consideration the outputs of the evidence assessment (see Summary – **sub-section 4.1.7**).

3. The total area of each broad-scale habitat across each MCZ project region

JNCC and Natural England provided data to the regional MCZ projects on the total area of BSHs (Natural England & JNCC 2012h). The PDG allowed regional MCZ projects to incorporate local datasets into the data provided by JNCC and Natural England and so the regional MCZ projects occasionally modified these data.

Some of the changes made to the BSH data by the regional MCZ projects reflect the incorporation of new data made available during regional MCZ projects' data mining phase. The regional MCZ projects have reported on some of these changes (see p68, Section 5.7, Net Gain final report; Appendix 8, Finding Sanctuary final report; Balanced Seas final report; p40, Section 2.2.4, IS CZ final report) (Balanced Seas 2011a, Irish Sea Conservation Zones 2011, Lieberknecht, et al. 2011, Net Gain 2011a), although some of the modifications were not explained. The proportion of habitat protected (that is, the measure of adequacy for BSHs), depends on whether the original data provided by JNCC and Natural England or the modified regional MCZ project data are used in the calculations. However, for the purposes of the current assessment, JNCC and Natural England assessed the adequacy guidelines for BSHs against both the data used by the regional MCZ projects, and the original dataset supplied to the regional MCZ projects by JNCC and Natural England. The advice that JNCC and Natural England provide in this present section, and [Annex 5](#), takes into account the differences in the data presented in the regional MCZ project reports versus the original data we supplied to the regional MCZ projects.

The issues created by the differences in data will be addressed when a further assessment is carried out taking into consideration the outputs of the evidence assessment (see Summary – **sub-section 4.1.7**). However, for this assessment, it should be noted that in some instances the back translation of additional data to incorporate it with the existing EUNIS broad scale habitat data, created minor changes to some habitat classification, and in a very few cases, makes a difference to the adequacy assessment. Where issues have occurred which affect the assessment, we explain the final decision in the narrative in [Annex 5](#), with suggested amendments in some cases.

Viability. The ENG (Natural England and the Joint Nature Conservation Committee, 2010) describes different viability guidelines for broad-scale habitats and FOCI. Viability of broad-scale habitats and FOCI was assessed using GIS to measure whether the minimum diameter of 5km had been achieved for the size of each rMCZ. There are cases where a habitat feature has a linear distribution and therefore can potentially be difficult to capture within the boundary whilst adhering to the viability guidelines. This is especially applicable to sites within the inshore where some habitats are restricted by geography, for example estuaries, intertidal, and infralittoral broad scale habitats which could rarely achieve a 5km diameter. For these coastal sites, NE has assessed whether either the target is met in linear length, or if this was not applicable, whether the site has captured all of the features. The Ecological Network Guidance for viability focuses on the site itself rather than the area of a broad-scale habitat within a rMCZ or recommended reference area. Some small patches of broad-scale habitat may not be suitable as features for designation and uncertainty increases in instances where the habitat has been mapped using modelled data only. Where JNCC and Natural England have advised that a feature is not designated for this reason, expert judgement has been used and is fully explained in the narrative for each site assessment in [Annex 5](#).

For FOCI, GIS was also used to determine whether a minimum viable patch size was met, and each FOCI has a specific viable patch size. However, the ENG also describes where features occur in patches smaller than the minimum diameter, the whole patch should simply be included. Therefore in some instances, data sources were checked to ensure the whole patch was included. For some features, where features occur in discreet locations, the whole patch should be included regardless of size. One final variation is that of lagoon species, and viability for these relies on the whole lagoon being included. Natural England has combined expert opinion with the guidance in some cases, and the reasons are clearly explained in the narrative. For example, the Fleet lagoon is extraordinarily large, and it is not necessary to include it all to provide protection to the lagoon species which are entirely captured in the area proposed.

- **Connectivity.** This was assessed using a combination of the connectivity results presented in the regional MCZ project reports and an assessment of distance between European Nature Information System (EUNIS) Level 2 habitats within the rMCZs and existing MPAs using GIS at the regional MCZ project level. If connectivity for a feature was considered to be met, then this is denoted with a tick against the relevant feature in the individual site assessment tables in [Annex 5](#). For the inshore sites, the main factor considered for connectivity at a regional project level was distance between sites. However, for additional information, in some cases regional advisers did also comment on the more detailed connectivity assessments undertaken by the regional projects as reported in the final recommendation reports, where a site was particularly important for connectivity at finer scale level, e.g. EUNIS Level 3.

4.1.12 The detailed assessment and advice on site recommendations is provided in [Annex 5](#) in the following format:

- A table for each rMCZ which lists the features proposed for designation and summarises whether the network design principles have been met (using a simple tick, cross or short text)

- A short narrative to provide additional comments on the table content and to explain the ecological benefits of the sites/features. The information in the narrative encompasses: key qualitative and quantitative information based on ENG guidelines and principles; ecological considerations on a regional and wider scale (the whole MCZ Project area and, where data are available, the Charting Progress 2 regional seas (see **paragraph 4.1.8**); suggestions on how the recommendations for each site could be improved by specific suggested amendments; and any other key considerations to take into account.
- Please note that no ENG numerical guidelines were developed for the whole MCZ Project area and so we have only assessed the importance of a site within the wider context, for example if it makes the largest contribution of a BSH out of all of the recommendations across the whole MCZ Project area. The narrative also includes any potential implications of not designating a site, and also any instances where there is limited scientific evidence to justify the inclusion of a recommended feature.

4.1.13 As well as the assessment of the key ENG guidelines, the tables and narrative provide the necessary information summarised below:

1) Where relevant, we include notes addressing site-specific comments made by the SAP. These tables display information that came out of the assessment on the full set of recommendations against the network design principles and ENG guidelines. If a decision is made not to progress any feature or site, there would be implications for the rest of the recommendations that could not be reflected in the information presented in this section because the proportions shown within the summary tables would need to be recalculated. Also note that in [Annex 5](#) the narrative on the implications of a site not being designated focuses primarily on where the guidelines are either not being achieved or only just being achieved.

2) Our advice offers a view on the relative ecological importance of the features, in particular with relation to:

- The inherent quality of the feature(s) at a site level (for example, Feature A in site X contains a variety of rare and highly sensitive biotopes or species)
- The contribution of the feature towards ENG guidelines at regional MCZ project level and specifically highlighting any gaps or shortfalls with the network (for example, Feature B in site Y provides a greater contribution towards the adequacy guidelines than any other site within the regional project area), and the implications is a site was not put forward, such as a resultant shortfall in a feature.
- The whole MCZ Project area, and/or Charting Progress 2 regional sea area where we have relevant information (for example, Feature C in site Z is the only example within the English Channel waters).

3) Both the present section, [Annex 5](#) and the regional MCZ reports highlight where it was not possible for the regional MCZ projects to meet the ENG guidelines for some features. Examples include where there is a lack of records for a feature, or the features have limited distribution within the area or, in the case of connectivity, the way a habitat is distributed throughout the region. The tables within the individual site assessments in [Annex 5](#) highlight such examples for the relevant features. Any changes suggested to site boundaries, location or features for designation within our advice are dependent upon available evidence and supporting information. Further information on the evidence that will become available in the near future can be found in [Section 5.3](#).

4) Where relevant, we include additional information highlighting site benefits that were not necessarily a primary reason for the rMCZ proposal but are further considerations outlined in the ENG, such as the potential scientific value of sites/features, the suitability of site boundaries, the existence of geological and geomorphological features and additional ecological importance. Within the individual site assessments tables in [Annex 5](#) we have given the name of the Geological Conservation Review site or the geological/geomorphological feature of interest if it has been recommended as a feature for designation. If however there are geological features present within the site which have not been recommended as a feature this has been represented as a tick and further information provided in the narrative. The assessment also considered information on potential beneficial ecosystem services and processes that may be provided through the protection of the recommended features.

5) The narrative also highlights any ecological implications of a recommendation being rejected for designation. It should be noted that any rMCZ (including rRAs) removed from the suite of recommended sites will have a knock-on effect on the ability of the remaining recommendations to meet the network design principles and in some cases may subsequently increase the importance of other recommended features.

6) In some instances, some boundary changes have been recommended for the inshore sites. Although Natural England has not systematically assessed all rMCZs to see whether changes could be made to maximise potential conservation benefits, in the process of writing this section it became apparent that for some small changes to boundaries would help to achieve the network guidance criteria and potentially fill gaps elsewhere. Where Natural England has suggested changes, the expected stakeholder response where known has also been stated.

4.1.14 The Charting Progress 2 (CP2)³⁶ regions (**Figure 6**) were used for the assessment at a wider scale (see **paragraph 4.1.8**). Please note that the current assessment is not a full assessment of the network principles at biogeographical level. It provides only an indication of where a feature or site is important or could add additional value in the context of the biogeographic region ([Annex 5](#)).

4.1.15 The regional MCZ projects recommended a number of non-ENG features. These have been included in the site assessment tables presented in [Annex 5](#), but as these are non-ENG features, no assessment against the ENG guidelines has been carried out. Any other information relevant to these non-ENG features recommended as features for designation has been included where necessary, within the relevant site information. The additional considerations as set out in the MCZ Board paper 'Process for considering features not listed in the Ecological Network Guidance for protection through MCZs (JNCC & Natural England 2011a) are included where relevant. A detailed analysis of the non-ENG features can be found in [Section 4.4](#).

4.1.4 Overview of the regional MCZ project recommendations

4.1.16 The regional MCZ project teams, stakeholders, JNCC and Natural England put in a considerable amount of time and effort to generate the regional MCZ project recommendations. The regional MCZ project reports represent a huge achievement by all those involved in the process and reflect a genuine commitment to the collaborative process of recommending MCZs. The regional MCZ project recommendations make significant progress towards meeting the network design principles and if the rMCZs are designated, achieving the requirements of the MCAA (see [Section 2](#)). The regional MCZ project reports describe any perceived gaps or shortfalls of the recommendation, offering explanations where possible. It is the view of JNCC and Natural England that the reasons for these gaps are usually due to uncertainties on the feature evidence presented to the regional

³⁶ <http://chartingprogress.defra.gov.uk/>.

stakeholder groups, and the uncertainties of the socio-economic consequences of a feature or site put forward for designation.

- 4.1.17 The final recommendations consist of 127 rMCZs and 65 rRAs (of which 19 are sites not located within an rMCZ, but may be located within existing MPAs). The breakdown of rMCZs and reference areas recommended by each regional MCZ project can be seen in **Table 2** in [Section 1](#).
- 4.1.18 The regional MCZ projects used available ecological and socio-economic information to identify sites and for the development of draft conservation objectives, although some assessments were not completed due to time restrictions and late changes to recommended features (see [Section 3](#)). Information on the network design principles of best available evidence can be found in Sections [5.1](#) and [5.2](#) and [Annex 9](#).
- 4.1.19 An overview is presented below describing the degree to which the regional MCZ project recommendations satisfy the guidelines in the ENG at the regional MCZ project level and on a wider scale (see **paragraph 4.1.8**). The contribution of existing MPAs to meeting the network design principles of representation, replication, adequacy and connectivity has been taken into account in the assessment. As explained above (Methodology – **sub-section 4.1.3**), in some cases the regional MCZ projects have modified the data on the contribution of existing MPAs, which has implications for the assessment against the network design principles.

Representativity, replication and adequacy

- 4.1.20 These three network design principles have quantitative guidelines in the ENG which the projects treated as guidelines to be achieved. JNCC and Natural England did not provide targets but recommended the regional MCZ projects aim between a lower and higher guidelines. Overall the recommendations meet representativity, replication and adequacy guidelines for most broad-scale habitats at regional MCZ project level (see **Table 4**).

Table 4 Summary of representativity, replication and adequacy for each ENG feature within the regional MCZ project areas

✓ = feature which is proposed for designation in at least one rMCZ and which is considered to meet replication/adequacy. Therefore, a feature will be assigned a tick (in the respective columns) if it meets replication and/or adequacy guidelines.

X = feature which is proposed for designation in at least one rMCZ but the feature is not considered to meet replication/adequacy.

Grey cells containing 'Existing MPA(s)' represent features occurring in the regional MCZ project area and which are not represented in any rMCZs but which are represented in existing MPAs (as identified through the SNCBs' MCZ Advice Project Technical Protocol H – Assessing the contribution of existing sites to the network (Natural England & JNCC 2012h)).

Empty grey cells indicate features which occur in the regional MCZ project area and which are not represented in any existing MPAs (as identified through the SNCBs' MCZ Advice Project Technical Protocol H – Assessing the contribution of existing sites to the network (Natural England & JNCC 2012h)) or any rMCZs.

N.A. indicates features for which there is insufficient evidence to suggest that they occur within the regional MCZ project area.

For further information on the assessments which have been made for replication and adequacy, please see the individual rMCZ assessments in [Annex 5](#). Please note that for features which have a limited distribution within a regional MCZ project area, 'replication' and adequacy may be considered to be met if the only known example(s) of the feature are proposed for designation in an rMCZ.

Feature	Net Gain		Balanced Seas		Fishing Sanctuary		Irish Sea Conservation Zones	
	Replication	Adequacy	Replication	Adequacy	Replication	Adequacy	Replication	Adequacy
A1.1 High energy intertidal rock	✓	✓	✓	✓	✓	✓	✓	✓
A1.2 Moderate energy intertidal rock	✓	✓	✓	✓	✓	✓	X	✓
A1.3 Low energy intertidal rock	✓	✓	✓	✓	✓	✓	Existing MPA(s)	Existing MPA(s)
A2.1 Intertidal coarse sediment	✓	✓	✓	✓	✓	✓	Existing MPA(s)	Existing MPA(s)
A2.2 Intertidal sand and muddy sand	✓	✓	✓	✓	✓	✓	✓	✓
A2.3 Intertidal mud	✓	✓	✓	✓	✓	✓	✓	✓
A2.4 Intertidal mixed sediments	✓	✓	✓	✓	✓	✓	✓	✓
A2.5 Coastal saltmarshes and saline reedbeds	✓	✓	Existing MPA(s)	Existing MPA(s)	✓	✓	✓	✓
A2.6 Intertidal sediments dominated by aquatic angiosperms	Existing MPA(s)	Existing MPA(s)	Existing MPA(s)	Existing MPA(s)	✓	✓	✓	✓
A2.7 Intertidal biogenic reefs	Existing MPA(s)	Existing MPA(s)			✓	✓	✓	✓
A3.1 High energy infralittoral rock	✓	✓	✓	✓	✓	✓	✓	✓
A3.2 Moderate energy infralittoral rock	✓	✓	✓	✓	✓	✓	✓	✓

A3.3 Low energy infralittoral rock			✓	✓	✓	✓	Existing MPA(s)	Existing MPA(s)
A4.1 High energy circalittoral rock	✓	✓	✓	✓	✓	✓	✓	✓
A4.2 Moderate energy circalittoral rock	✓	✓	✓	✓	✓	✓	✓	✓
A4.3 Low energy circalittoral rock	x	✓			Existing MPA(s)	Existing MPA(s)	✓	✓
A5.1 Subtidal coarse sediment	✓	✓	✓	✓	✓	✓	✓	✓
A5.2 Subtidal sand	✓	✓	✓	✓	✓	✓	✓	✓
A5.3 Subtidal mud	✓	x	✓	✓	✓	✓	✓	✓
A5.4 Subtidal mixed sediments	✓	✓	✓	✓	✓	✓	✓	✓
A5.5 Subtidal macrophyte-dominated sediment			Existing MPA(s)	Existing MPA(s)	✓	✓	Existing MPA(s)	Existing MPA(s)
A5.6 Subtidal biogenic reefs	✓	✓			N.A.	N.A.		
A6 Deep-sea bed			N.A.	N.A.	✓	✓	N.A.	N.A.
Blue Mussel Beds	✓	✓	✓	✓	✓	x	✓	✓
Intertidal underboulder communities	✓	✓	✓	✓	✓	✓	✓	✓
Littoral chalk communities	x	x	✓	✓	N.A.	N.A.	N.A.	N.A.
Maerl beds	N.A.	N.A.	✓	✓	x.	x	N.A.	N.A.
Mud habitats in deep water			x ¹	x	✓	✓	✓	✓
Native oyster (<i>Ostrea edulis</i>) beds	N.A. ²	N.A. ²	✓	✓	Existing MPA(s)	Existing MPA(s)	N.A.	N.A.
Peat clay exposures	✓	✓	✓	✓	x	x	✓	✓
Ross worm (<i>Sabellaria spinulosa</i>) reefs	✓	✓	✓	✓				
Seagrass beds	✓	✓	✓	✓	✓	✓	✓	✓
Sea pens and burrowing megafauna	Existing MPA(s)	Existing MPA(s)	✓	✓	Existing MPA(s)	Existing MPA(s)	✓	✓
Sheltered muddy gravels	✓	✓	✓	✓	✓	✓		
Cold water coral reef	N.A.	N.A.	N.A.	N.A.	✓.	✓	N.A.	N.A.
Subtidal chalk	✓	✓	✓	✓	✓.	✓	N.A.	N.A.
Subtidal sands and gravels	✓	✓	✓	✓	Existing MPA(s)	Existing MPA(s)	✓	✓
Tide swept channels			Existing MPA(s)	Existing MPA(s)	✓	✓		
Coral garden potential	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Deep sea sponge aggregations potential	N.A.	N.A.	N.A.	N.A.			N.A.	N.A.

	✓	✓	✓	✓	✓	✓	Existing MPA(s)	Existing MPA(s)
Estuarine rocky habitats	✓	✓	✓	✓	✓	✓		
File shell beds	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Fragile sponge and anthozoan communities on subtidal rocky habitat	N.A.	N.A.	✓	✓	✓	✓	N.A.	N.A.
Honeycomb worm (<i>Sabellaria alveolata</i>) reefs			✓	✓	✓	✓	✓	✓
Horse mussel (<i>Modiolus modiolus</i>) beds			N.A.	N.A.	N.A.	N.A.	X	X
Tentacled lagoon-worm <i>Alkmaria romijni</i>	Existing MPA(s)	Existing MPA(s)	✓	✓	✓	✓	N.A.	N.A.
Amphipod shrimp <i>Gitanopsis bispinosa</i>			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Giant goby <i>Gobius cobitis</i>	N.A.	N.A.	N.A.	N.A.	✓	✓	N.A.	N.A.
Couch's goby <i>Gobius couchi</i>	N.A.	N.A.	N.A.	N.A.	✓	✓	N.A.	N.A.
Stalked jellyfish <i>Haliclystus auricula</i>	N.A.	N.A.	✓	✓	✓	✓	N.A.	N.A.
Long snouted seahorse <i>Hippocampus guttulatus</i>	N.A.	N.A.	X	X	X	X	N.A.	N.A.
Short snouted seahorse <i>Hippocampus hippocampus</i>	N.A.	N.A.	✓	✓	✓	✓	N.A.	N.A.
Sunset cup coral <i>Leptopsammia pruvoti</i>	N.A.	N.A.	N.A.	N.A.	✓	✓	N.A.	N.A.
Coral maerl <i>Lithothamnion corallioides</i>	N.A.	N.A.	N.A.	N.A.	X	X	N.A.	N.A.
Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	N.A.	N.A.	✓	✓	✓	✓	N.A.	N.A.
Sea-fan anemone <i>Amphianthus dohrnii</i>	N.A.	N.A.	N.A.	N.A.	✓	✓	N.A.	N.A.
Stalked jellyfish <i>Lucernariopsis campanulata</i>	N.A.	N.A.	✓	✓	X	X	N.A.	N.A.

Starlet sea anemone <i>Nematostella vectensis</i>	✓	✓	✓	✓	Existing MPA(s)	Existing MPA(s)	N.A.	N.A.
Native oyster <i>Ostrea edulis</i>			✓	✓	✓	✓	N.A.	N.A.
Peacock's tail <i>Padina pavonica</i>	N.A.	N.A.	X	X	✓	✓	N.A.	N.A.
Spiny lobster <i>Palinurus elephas</i>			N.A.	N.A.	✓	✓	N.A.	N.A.
Sea snail <i>Paludinella littorina</i>	N.A.	N.A.	✓	X	✓	✓	N.A.	N.A.
Common maerl <i>Phymatolithon calcareum</i>					✓	✓	N.A.	N.A.
Gooseneck barnacle <i>Pollicipes pollicipes</i>	N.A.	N.A.	N.A.	N.A.			N.A.	N.A.
Lagoon sea slug <i>Tenellia adspersa</i>	N.A.	N.A.	✓	✓	✓	✓	N.A.	N.A.
Trembling sea mat <i>Victorella pavida</i>	N.A.	N.A.	N.A.	N.A.	✓	✓	N.A.	N.A.
Ocean quahog <i>Arctica islandica</i>	X	X			✓	✓	✓	✓
Grateloup's little-lobed weed <i>Grateloupia montagnei</i>	N.A.	N.A.	N.A.	N.A.	X	X	N.A.	N.A.
European eel <i>Anguilla anguilla</i>			✓	✓	✓	✓	✓	✓
Smelt <i>Osmerus eperlanus</i>	X	X	X	X	✓	✓	✓	✓
Undulate ray <i>Raja undulata</i>			X	X	X	X	X	X
Lagoon sandworm <i>Armandia cirrhosa</i>	N.A.	N.A.	Existing MPA(s)	Existing MPA(s)	Existing MPA(s)	Existing MPA(s)	N.A.	N.A.
Fan mussel <i>Atrina pectinata</i> ³⁷	N.A.	N.A.	N.A.	N.A.				
Defolin's lagoon snail <i>Caecum armoricum</i>	N.A.	N.A.	✓	✓	✓	✓	N.A.	N.A.

³⁷ Please note that since developing the ENG this species has been confirmed as *Atrina fragilis*. However, in this advice we have used the name listed in the ENG.

Burgundy maerl paint weed <i>Cruoria cruoriaeformis</i>			N.A.	N.A.	✓	✓	N.A.	N.A.
Pink sea-fan <i>Eunicella verrucosa</i>	N.A.	N.A.	N.A.	N.A.	✓	✓	N.A.	N.A.
Lagoon sand shrimp <i>Gammarus insensibilis</i>	Existing MPA(s)	Existing MPA(s)	✓	✓	Existing MPA(s)	Existing MPA(s)	N.A.	N.A.

¹There are 2 replicates for this feature (HOCI 13 Mud habitats in deep water) in the region. The Regional Seas Group state disagreements over the definition of this habitat are the reason for this missed target (see [Section 4.1](#); rMCZ 22 Bembridge (and rRA 15 Tyne Ledges rRA 21 Culver Spit). Also, there is also uncertainty surrounding the description of the habitat and therefore the validity of the feature records (see [Section 4.1](#); rMCZ 26 Hythe Bay).

²The advice from the Scientific Advisory Panel was to ignore this as a feature because only records available are those associated with platform and man-made structures.

4.1.21 Representativity – The guidelines for representativity in the ENG explain that each of the ENG features known to occur in each of the regional MCZ project areas should be represented in at least one rMCZ. Examples of where this has not occurred can be seen in **Table 4**. Subtidal macrophyte-dominated sediments in the Irish Sea Conservation Zone (ISCZ) was excluded from the rMCZs owing to opposition and concerns from regional industry representatives. However, we consider this sufficiently protected as an Annex I reef sub-feature within existing MPAs in this region (see [Section 4.3](#)). Only a small area of deep-sea bed occurs in the Net Gain region. The description of subtidal macrophyte-dominated sediments also includes subtidal seagrass beds, and the only subtidal seagrass bed in the region has been included within rRA W Barrow South.

4.1.22 Replication – Some replication results fall below the recommended minimum guideline but this is mainly due to the feature having either a known limited distribution or a limited number of records within the region (see **Table 4**). There are also cases where the distribution of a feature is limited due to geographical or environmental factors (for example some intertidal habitats are restricted to discrete pockets within a specific area).

4.1.23 Adequacy – According to the information submitted by the regional MCZ projects, the minimum adequacy guidelines have been achieved for most broad-scale habitats (see **Table 4**). There is only one case where this has not been achieved when it was possible (see **Table 5**), which is subtidal mud within the Net Gain region. Subtidal mud is also only just reaching the lower guideline in the ISCZ (when including the co-location option) regional MCZ project area. As shown in the regional MCZ project reports, some habitats exceed the higher guideline provided in the ENG on proportion of habitat to be protected. This is sometimes due to the contribution made by an existing MPA to certain BSH. This does not automatically mean that those rMCZs with these features proposed for designation are not required to achieve other ENG guidelines. These sites may be essential for other network design principles such as replication or maintaining connectivity in the network.

4.1.24 The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to complement the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats (see Lieberknecht et al. (2011) p1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site,

sandy beaches were incorrectly classified as sand and mud habitats. We **advise** that these calculations should be redone in the future.

Table 5 Broad-scale habitat that does not meet minimum adequacy guidelines where these could have been achieved within regional MCZ project areas

Broad-scale habitat	Regional MCZ project
A5.3 Subtidal mud	Net Gain

Note: There is a disparity in figures, in regard to adequacy guidelines, between the regional MCZ projects' final recommendations and the broad-scale habitat contained in the table (see Methodology – **sub-section 4.1.3**).

4.1.25 The degree to which the guidelines for the representativity and replication design principles have been achieved for habitat and species FOCI varies between projects. Generally speaking the replication guidelines were achieved, although some habitat and species FOCI are not represented or fall below the minimum replication guideline (see **Table 4**). We do not consider having a gap in those cases where a feature is below the recommended guidelines due to its limited distribution in the regional MCZ project area, similar to the factors influencing adequacy guidelines described above. The main cause for a lack of representation and replication of FOCI within the recommendations was the uncertainty of the evidence presented to the regional stakeholders. In particular there was uncertainty on whether a feature was still present within a particular area or, in the case of biogenic reef habitats, whether species records demonstrated the presence of the habitat.

4.1.26 For FOCI adequacy, the ENG adequacy principle states that where possible MPAs within each regional MCZ project area should collectively protect a proportion of each FOCI. This should be achieved by applying a combination of the guidelines on replication, viability and connectivity. In general the regional MCZ projects met these guidelines apart from those cases where replication and viability guidelines have not been met (see **Table 4**).

Viability, connectivity and boundaries

4.1.27 Viability guidelines are set at the site scale for broad-scale habitats and for patch sizes for FOCI (Natural England and the Joint Nature Conservation Committee, 2010). The viability guidelines have been achieved for most rMCZs with the exception of recommended reference areas.

4.1.28 The network design principle of viability focuses on whether a site is of appropriate size for the proposed features. The ENG specifies that MCZs for broad-scale habitats should have a minimum diameter of 5km with the average diameter being between 10 and 20km. Of the rMCZs containing BSHs as features for designation, 46% of the rMCZs meet the minimum diameter of 5km and 27% of the rMCZs are above the average 10km diameter provided in the ENG. The ENG does not provide guidance on what is considered likely to be viable in terms of the area of a patch broad-scale habitat within an rMCZ. Some small patches of broad-scale habitat may not be suitable as features for designation and uncertainty increases in instances where the habitat has been mapped using modelled data only and confidence in the presence and extent of the habitat may be low (see [Section 5.1](#)). Where JNCC and Natural England have advised that a feature is not designated for this reason, expert judgement has been used and is fully explained in the narrative for each site assessment in [Annex 5](#).

- 4.1.29 It is clear that the guidance on viability is not completely applicable to coastal sites. Intertidal, infralittoral and estuarine BSHs could rarely achieve a 5km minimum diameter. Natural England used expert judgement to assess whether sites are viable for those BSHs, and sites had to meet the viability target (at least in linear length) or, if this was not applicable, include the full extent of the feature in that location.
- 4.1.30 Overall, the network design principle of connectivity has been achieved with most sites spaced between 40 and 80km apart. There are some gaps such as between the inshore and offshore within Finding Sanctuary, although they still met the guidelines. Although Net Gain assessed connectivity using the incorrect buffers in its final recommendations report, further assessment using correct buffers has agreed with its findings that connectivity was achieved for EUNIS level 2 sublittoral sediment and not for circalittoral rock (due to a gap around the Wash area) (Net Gain 2011a) and so was achieved as far as was possible due to the habitat distribution. Balanced Seas also failed to meet connectivity guidelines for EUNIS level 2 circalittoral rock habitats; however, this was also due to the distribution of the available habitat and so can be viewed as having been achieved as far as was possible (Balanced Seas 2011a).
- 4.1.31 It appears that decisions on boundaries and location of sites were mainly based upon socio-economic considerations and took a great deal of negotiation between stakeholders. It is not always clear if a margin or buffer was considered in setting the boundaries to ensure the recommended feature for designation has appropriate protection. Those instances where we feel a sufficient buffer has not been provided are highlighted in the site assessments in [Annex 5](#).

Areas of additional ecological importance and scientific value

- 4.1.36 Areas of additional ecological importance (AAEI) are included as a further consideration when identifying possible MCZs within Defra Guidance Note 1 (Defra 2010b) and the ENG (Natural England and the Joint Nature Conservation Committee, 2010). The ENG guidelines on areas of additional ecological importance state that these areas should be used to prioritise decisions on site selection and location, rather than identify rMCZs for these features in their own right.
- 4.1.37 During the stakeholder discussions, information and data on areas of additional ecological importance was provided to the RSGs which were used to aid discussions on the location and final shape of site boundaries, in particular if a location could be considered to have a greater contribution than other areas in terms of biodiversity or ecosystem function. The regional MCZ projects were provided by JNCC and Natural England with national datasets on UK benthic biotope and benthic species biodiversity (Langmead, et al. 2010), for consideration when identifying and recommending MCZs. In addition to these datasets on species and benthic biodiversity, information on pelagic biodiversity was provided by the Wildlife Trusts, on behalf of the wider group of NGOs. An integrated dataset was created to show 'areas of additional pelagic ecological importance'. It included data from thermal fronts (Miller, Christodoulou and Picart 2010), fish spawning and nursery areas (ABPmer 2009a), basking sharks (Marine Conservation Society and the Shark Trust), marine mammals (Whale and Dolphin Conservation Society) and seabirds at sea (Royal Society for the Protection of Birds) using a method developed and agreed by the Wildlife Trust in collaboration with other stakeholders.
- 4.1.38 We cannot always assess whether this guidance was used in the process as a driver for the decisions on locations of sites but nevertheless we have assessed whether a site overlaps with an AAEI (see [Annex 5](#)). Some of the rMCZs overlap, with areas of high benthic biodiversity, species biodiversity, and/or high pelagic productivity. For example, the northern part of the North St George's rMCZ in the IS CZ region includes an important area for seabird foraging, see [Annex 5](#) for more information). In a few cases the selection of a broad-scale habitat or FOCl at a particular site

was driven by information on key life cycle stages of a species, for example Kingmere rMCZ in Balanced Seas was recommended to protect the wider sandstone reef which is known to be associated with spawning aggregations of the fish species *Spondyliosoma cantharus*, commonly known as black bream (Balanced Seas 2011a). Whilst areas of additional ecological importance were an important element of the stakeholder discussions, it is not always clear if these were fully taken into consideration in the decision making on the location of sites.

- 4.1.39 JNCC and Natural England believe the information on the scientific value of sites was not always considered in stakeholder discussions, and overall there is little mention of this within the regional MCZ project reports. Regardless of whether the scientific value of a site was the driver for a location being selected for an MCZ, some of the rMCZs have been well studied and could have high value for scientific research. These instances are highlighted in the individual site assessments in [Annex 5](#). Reference areas will also contribute to the scientific value of the recommendations by providing us with information to further our understanding of the effect of human activities on the marine environment, and the development of evidence-based thresholds to inform management measures.

Geological features

- 4.1.40 As stated in the introduction, geological and geomorphological features were also considered for MCZ recommendations. It is important to preserve certain marine geological and geomorphological features as nearly every part of the UK land area has been under water at some point in the past, and many of the processes that contributed to the creation of geological features on land are active today on, or below, the seabed and can be studied there. Geological and geomorphological features in the marine environment also preserve an important record of the geological events that helped shape the British Isles, such as evidence of glacial erosion and deposition events, for example the outburst flood events that carved out the English Channel and the North Sea.
- 4.1.41 The ENG recommended that there are 32 Geological Conservation Review (GCR³⁸) sites on the coast that should be considered for boundary extensions seawards, and the below low water areas protected as rMCZs (figure 14 and table 28 of the ENG). Furthermore, outside of the GCR network of sites, 12 further geological and geomorphological features of interest below low water and not connected to the GCR features at the coast were listed in the ENG for consideration following research under MB0102 (Brooks, et al. 2009).
- 4.1.42 Regional stakeholder groups considered these GCR sites and features whilst identifying rMCZs and in total seven of the 32 GCR sites, and five of the 12 geological and geomorphological features of interest have been proposed as features for designation. **Table 6** shows the list of GCR and geological features specifically recommended as features for designation in rMCZs by the regional stakeholder groups. Annex 5 also lists where geological or geomorphological features of interest coincide with rMCZs but were not proposed for designation by the RSGs. There were [insert number] instances where this occurred and in the case of the Silver Pit glacial tunnel valley within the Holderness Offshore rMCZ in the Net Gain region, JNCC have advised that this should be put forward as a feature for designation (for more detail see site assessment in [Annex 5](#)).
- 4.1.43 Additional geological features which were not listed in the ENG were identified as important by some of the regional MCZ projects and recommended as features for designation (see **Table 6**). These were Bouldnor Cliff geological feature within Yarmouth to Cowes rMCZ, Balanced Seas, Inner Silver Pit within Silver Pit rMCZ, Net Gain and the Drumlins within North St Georges Channel rMCZ, IS CZ.

³⁸ The GCR mechanism is the main instrument for identifying and ratifying sites deemed to be worthy of SSSI status for geo-features terrestrially.

4.1.44 The Finding Sanctuary report states that although no sites were specifically put forward as GCR extensions, some inshore rMCZs in the region intersect with the following GCR sites: Axmouth to Lyme Regis Undercliffs, Eastern Isles, Northam Burrows, Rame Head & Whitsand Bay, Slapton Ley/Hallsands to Beesands, and Tean.

4.1.45 In addition to those features highlighted in the regional MCZ project recommendations, whilst carrying out our assessment it became apparent that some of the rMCZs incidentally overlap with other geological features not listed within the ENG and this has been highlighted in each individual site assessment in [Annex 5](#). These features may already be protected in existing designations such as SSSIs or remain undesignated.

4.1.46 JNCC and Natural England **advise** that Defra should further consider whether geological or geomorphological features are adequately incorporated in rMCZs for geoconservation in the marine area and that geological stakeholders should be involved in any further process.

Table 6 Geological features recommended as features for designation within rMCZs

Site code/name	Name and type of geological feature
Net Gain	
NG 01c – Alde Ore Estuary rMCZ	Orfordness (Subtidal) GCR – listed in the ENG
NG 02 – Cromer Shoal Chalk Beds rMCZ;	North Norfolk coast (Subtidal) GCR – listed in the ENG
NG 08 – Holderness Inshore rMCZ	Spurn Head (Subtidal) GCR – listed in the ENG
NGRA 06 – Dogs Head Sandbanks rRA	Gibraltar point (Subtidal) GCR – listed in the ENG
NG 16 – Swallow Sand rMCZ	North Sea Glacial Tunnel Valleys (Swallow Hole)
NG 06 – Silver Pit rMCZ	Inner Silver Pit – not listed in the ENG
Balanced Seas	
BS 03 – Blackwater, Crouch, Roach and Colne Estuaries	Clacton Cliffs and Foreshore GCR – listed in the ENG
BS 11.2 – Dover to Folkstone rMCZ	Folkestone Warren GCR – listed in the ENG
BS 23 – Yarmouth to Cowes rMCZ	Bouldnor Cliff Geological feature GCR – not listed in
BS 25.2 – Selsey Bill and the Hounds rMCZ	Bracklesham Bay GCR – listed in the ENG
BS 08 – Goodwin Sands rMCZ; BS 09 – Offshore Foreland rMCZ; and BS 17 – Offshore Overfalls rMCZ	Eastern English Channel Flood Features Geological and geomorphological feature of interest
Finding Sanctuary	
FS 18 – South of Portland rMCZ	Portland Deep Geological and geomorphological feature of interest
FS 02 and FS 03 – South-West Deeps (West) rMCZ and South-West Deeps (East) rMCZ	Celtic sea relict sandbanks Geological and geomorphological feature of interest
FS 05 – Greater Haig Fras rMCZ	Haig Fras rock complex Geological and geomorphological feature of interest
Irish Seas Conservation Zone Project	
ISCZ 03 – North St Georges Channel rMCZ	Drumlins geological feature not on the ENG

4.1.5 Overlaps between MCZ recommendations, SSSIs and Natura designations

4.1.47 Natural England is the designating authority for SSSIs and sites are selected according to its opinion on special interest, which it has a duty to act upon. SSSIs are primarily a terrestrial designation but they can be notified in the intertidal area, estuarial waters, and, subject to provisions in schedule 13 of the MCAA, the subtidal area. Natural England assessed the contribution of existing SSSIs to the MPA network under technical protocol H (Natural England & JNCC 2012h) and provided this information to the regional MCZ projects.

- 4.1.48 Recommended MCZs do occur in the intertidal area and estuarial waters and also do overlap with existing SSSIs (but for different features). Natural England's site-based assessments in [Annex 5](#) describe where rMCZs overlap or are adjacent to SSSIs.
- 4.1.49 Natural England is currently reviewing its SSSI series between 2012 and 2015. Natural England has no plans to notify new SSSIs in the marine environment in the next few years. However, there is an option of extending the boundaries or adding to the notified features of existing SSSIs in order to pick up some MCZ proposals. Natural England **advises** that Defra and Natural England agree an approach to deal with the issue of overlapping designations and then apply this approach to the relevant rMCZs.
- 4.1.50 Some MCZs have been recommended for features which are Annex I habitats or Annex II species as listed on the Habitats Directive or species listed on the Wild Birds Directive. The ENG contains information on the overlaps between MCZ features and other designations, and correlation tables showing the relationship between broad-scale habitats, FOCI and Habitats Directive listed on the Habitats Directive. Defra Guidance Note 1 (Defra 2010b) 1 provides information on mobile species and MCZs.
- 4.1.51 The current recommendations include some features that, if their presence is confirmed in the evidence assessment ([Section 5.1](#)), would be seen as gaps within the SAC or SPA network as those features are not currently represented within the Special Area of Conservation (SAC) network within the respective regional seas, and so should be considered for protection under the Habitats or Birds Directive. Of particular relevance for SACs are biogenic reef recommendations within the Balanced Seas and ISCZ regions:
- *Sabellaria* reef in the Eastern English Channel – we have no examples of *Sabellaria* reef protected as a feature within SACs in the Eastern English Channel. However, it has been listed as a feature for designation within several of the rMCZs put forward by the Balanced Seas project (there is a question over whether the *Sabellaria* records are records of reef or only records to indicate the presence of *Sabellaria* species)
 - *Modiolus* reef in the Irish Sea – the area off north-west Anglesey is an offshore Area of Search for an SAC for the potential *Modiolus* reef in the area. *Modiolus* beds have been recommended as a feature within the North St George's Channel rMCZ by the ISCZ project.
- 4.1.52 JNCC and Natural England **advise** that these proposals should be evaluated to ascertain if the features should be protected within an SAC rather than within an MCZ as they are not currently represented within the SAC series. Natural England has provided advice within [Section 4.4](#) on whether the mobile species proposed should be designated as features of Marine Conservation Zones. Some features have also been recommended for designation within MCZs which are already protected within existing MPAs. These instances have been highlighted in the individual site assessments in [Annex 5](#).
- 4.1.53 The current proposals also include recommendations for broad-scale habitats around areas which are adjacent to existing SACs such as Haig Fras SCI and Pisces Reef Complex possible Special Area of Conservation (pSAC). We **advise** that Defra, JNCC and Natural England agree an approach to deal with the issue of overlapping designations, in particular to assess if the alteration of the SAC boundaries is the best way forward for the protection of the relevant features and the simplification of the designation processes

4.1.6 Recommended reference areas – Methodology

Background

- 4.1.54 Current Defra policy reflects international best practise in recognising that in order to achieve an ecologically coherent network, there should be a range of levels of protection within its MPAs. The first Ministerial Statement (Defra, 2010a) stated for the network design principle of protection that ‘the MPA network is likely to include a range of protection levels. Ranging from highly protected sites or parts of sites where no extractive, depositional or other damaging activities are allowed, to areas with only minimal restrictions on activities that are needed to protect the features’. It also recognised that the network needed to ‘minimise any adverse social and economic impacts and wherever possible to work with the grain of sustainable economic use of the seas’. Defra’s Guidance Note 1 (2010b) contains similar policy wording and recognises that ‘in some sites we will need to prohibit all extraction, deposition and activities that cause significant disturbance to support the achievement of conservation objectives, for example to conserve a rare and vulnerable species or to allow a site to reach reference condition’.
- 4.1.55 The concept of highly protected sites and the implementation of a range of protection within the network were captured in the ENG (Natural England and the Joint Nature Conservation Committee 2010) under the protection principle from Defra Guidance Note 1 (Defra 2010b). To achieve network aims it proposed that levels of protection should range from highly protected areas where no extraction, deposition or other damaging activities are allowed, to areas where only minimal restrictions on activities are needed to protect the features (Defra 2010b). Guideline 16³⁹ was developed to implement the highly protected sites aspect of the protection principle using the term ‘reference area’ to reflect the scenario where different management regimes could be applied within parts of a larger site to give varying levels of protection. In addition to meeting the fundamental principle of protection, there are good scientific reasons for different management regimes within a site to facilitate a comparison of the efficacy of management regimes and gain a better understanding of an unimpacted state

Approach

- 4.1.56 Regional MCZ projects and stakeholder groups followed ENG Guideline 16 to identify and recommend a set of reference areas. JNCC, Natural England and the SAP provided additional information to support their work. We advised that a reference area could contain multiple features and a conservation objective given to all ENG features that occur within the area. Furthermore, the reference areas could either be part of a larger rMCZ, a whole rMCZ or located within an existing MPA.
- 4.1.57 We also encouraged the RSGs to be spatially efficient in selecting reference areas (as with other MCZs) by proposing areas that included as many features as possible, prioritising the identification of reference areas for broad-scale habitats first, then habitat FOCI and lastly species FOCI.
- 4.1.58 Further guidance provided to the regional MCZ projects clarified that reference areas for broad-scale habitats should follow the viability guidelines, that is reference areas for broad-scale habitats should have a minimum diameter of 5km and reference areas just for FOCI should follow the viable patch sizes. No guidance was provided on what was considered viable in terms of BSH patch size within a reference area. The SAP also submitted a note on viability and reference areas to support this approach: see [Section 4.3](#) for further information.

Results

- 4.1.59 JNCC and Natural England evaluated the reference areas recommended by the regional MCZ projects against the ENG and the supplementary advice described above. **Table 7** sets out our evaluations showing the representativity of broad-scale habitats within the recommended reference

³⁹ Each broad-scale habitat type and FOCI should have at least one viable reference area within each of the four regional MCZ project areas where all extraction, deposition or human-derived disturbance is removed or prevented.

areas, and the viability of the sites. Please note that the viability was assessed at area level. Further information on the assessment of reference areas at specific locations can be found in [Annex 5](#). In summary, 65 reference areas were recommended (46 within larger rMCZs and 19 as stand-alone sites). Our assessment of the data on broad-scale habitat distribution suggests there should be at least 73 examples of proposed broad-scale habitat features in reference areas across all four regional projects. The regional MCZ projects recommendations covered 69 examples of which 36 were not viable (52%).

Table 7 An overview of broad-scale habitats (BSHs) present within recommended reference areas within each regional MCZ project area

✓ = feature proposed for designation within at least one viable⁴⁰ recommended reference area in the regional project area

X = feature proposed for designation within a non-viable recommended reference area

= feature proposed within an rMCZ in the region but not proposed for designation in a recommended reference area

Blank cells indicate features which occur in the regional MCZ project area and which are not represented in any rMCZs or features for which there is insufficient evidence to suggest that they occur within the regional MCZ project area (see Table 4 for this information)

Broad-scale Habitat	MCZ regional project area			
	Net Gain	Balanced Seas	Finding Sanctuary	Irish Sea Conservation Zones
A1.1 High energy intertidal rock	X	X	X	X
A1.2 Moderate energy intertidal rock	X	✓	X	X
A1.3 Low energy intertidal rock	X	X	X	
A2.1 Intertidal coarse sediment	X	X	✓	
A2.2 Intertidal sand and muddy sand	X	X	#	X
A2.3 Intertidal mud	X	✓	✓	X
A2.4 Intertidal mixed sediments	#	✓	X	X
A2.5 Coastal saltmarshes and saline reedbeds	✓		✓	✓
A2.6 Intertidal sediments dominated by aquatic angiosperms			✓	X
A2.7 Intertidal biogenic reefs			#	X
A3.1 High energy infralittoral rock	X	✓	✓	X
A3.2 Moderate energy infralittoral rock	X	X	✓	X
A3.3 Low energy infralittoral rock		X	✓	
A4.1 High energy circalittoral rock	#	✓	✓	✓

⁴⁰A site is viable if it follows the viability principle: MCZs for broad-scale habitats should have a minimum diameter of 5 km with the average size being between 10 and 20 km in diameter.

Broad-scale Habitat	MCZ regional project area			
	Net Gain	Balanced Seas	Finding Sanctuary	Irish Sea Conservation Zones
A4.2 Moderate energy circalittoral rock	✓	✓	✓	✓
A4.3 Low energy circalittoral rock	✓			X
A5.1 Subtidal coarse sediment	✓	✓	✓	✓
A5.2 Subtidal sand	✓	✓	✓	✓
A5.3 Subtidal mud	X	✓	✓	X
A5.4 Subtidal mixed sediments	✓	✓	✓	✓
A5.5 Subtidal macrophyte-dominated sediment			X	
A5.6 Subtidal biogenic reefs	X			X*
A6 Deep-sea bed			✓	

* The evidence assessment shows that biogenic reefs are not currently present within the reference area with only some records of biogenic reef forming species presence.

4.1.60 Our evaluations show that the regional projects were not successful in fulfilling Guideline 16 of the ENG (Natural England and the Joint Nature Conservation Committee 2010). Consequently, the recommendations do not achieve the principle of protection across the network. We have identified a number of reasons for this lack of success.

4.1.61 Discussions on recommended reference areas started late in the stakeholder-led process and were controversial (see [Section 3.1](#)). Stakeholders from industry sectors were concerned about the evidence underpinning the proposals and the lack of understanding of the potential impacts on their activities. The identification process was mainly focused around minimising the size of reference areas wherever possible to reduce socio-economic consequences for stakeholders. As a result, many of the areas proposed for broad-scale habitats do not meet the site viability guidelines, and none of the regional MCZ projects managed to submit a complete suite of reference areas with examples of all the relevant broad-scale habitats and FOCI present within the region.

4.1.62 Key shortfalls with the proposals are:

- Many areas are too small (below the viability principle of a minimum diameter of 5km). The small size of many of the reference areas reduces their ecological viability. There is evidence that fewer larger areas offer greater ecological benefit since their features are more likely to be self-sustaining rather than rely on immigration (of adults, juveniles or larvae) (Halpern 2003, Hastings and Botsford 2003);

- Edge effects⁴¹ of the small sites further reduces the likelihood of reference condition being reached, particularly in standalone areas;
- Representativity hasn't been achieved as some broad-scale habitats and FOCI do not have any recommended areas;
- Many areas were not chosen for their naturalness and are unlikely to be in favourable condition thus taking a longer time to reach reference condition. Whilst the more heavily impacted areas will help our understanding of recovery, we require benchmarks to determine proportionate management measures and then to assess their efficacy.

4.1.63 JNCC and Natural England had advised the regional MCZ projects to include all features occurring within a reference area and provide a draft conservation objective for reference condition. However, due to the approach taken by the regional stakeholder groups to minimise the size of reference areas, many contain very small patches of broad-scale habitats or FOCI. For example, in rRA9 Flamborough Head, the broad-scale habitat for Intertidal coarse sediment has an extent of 0.00004km². Features such as this were included and were counted towards the achievement of ENG guidelines in those cases where the reference area formed a complete rMCZ.

Conclusions on reference areas

4.1.64 JNCC and Natural England recognise the significant effort by the regional MCZ projects to identify reference areas to meet ENG Guideline 16. We also appreciate the challenges of reconciling socio-economic interest with a guideline that seeks high levels of protection for features. Our assessment of the recommended reference areas clearly highlights the challenges that were not surmountable within the time-frame of the regional MCZ projects.

4.1.65 JNCC and Natural England offer the following reflections on the principle of protection and its suggested implementation through the MCZ Project. Achieving varying levels of protection within protected areas requires different management regimes of human activities. The Convention on Biological Diversity (CBD) (UN, 1992) recognises some of the benefits of such management regimes by:

1. Enabling improved scientific understanding of the effects of removing human pressure to contribute biodiversity 'reference condition' to adaptive management across the whole network (CBD Principle 9).
2. Contributing to ecosystem recovery and subsequently to ecosystem provisioning (CBD Principle 5 and contribute to achieving Principle 10).
3. Enabling societal participation in the management of ecosystems by contributing to the range of management and value choices available (CBD Principles 2 & 12).

4.1.66 The evidence base describing the benefits of highly protected sites is described in the Ecological Network Guidance (ENG) (Natural England and the Joint Nature Conservation Committee, 2010). Since the ENG was published further studies have increased the evidence base on the effect of MPAs around the world. Notably in terms of relevance to the UK:

- Science of Marine Reserves European version (2011) compiled studies that had demonstrated the positive effect of MPAs (see <http://naturalengland.etraderstores.com/NaturalEnglandShop/PISCO>). This recent study, part funded by Natural England, looked at the evidence for the effects of marine reserves on habitats and species in European waters. European reserves showed similar positive effects to global

⁴¹ This is where the ratio between the edge of the site compared to the area of the site is high. In these instances species are more likely to spillover outside the site and activities which may damage features are likely to happen at the edge of the site and may accidentally encroach over the boundary in to the site.

ones with positive effects inside reserves on biomass, density, body size and diversity. Case studies from European reserves and recent literature are presented. Limited information is provided on studies that demonstrated little or no positive benefit of MPAs

- Initial findings from the 3rd year of monitoring in Lyme Bay following introduction of the Statutory Instrument (SI) in 2008 (Defra MB0101) show trends suggesting recovery associated with both reef and soft sediment habitats, though more time is required to determine whether these trends are consistent over a number of years and are not a short-term occurrence (M. Attrill & E. Sheehan pers. comm.).

4.1.67 There is good evidence for the benefits of high levels of protection for many parts of the marine ecosystem, particularly for benthic habitats and species within the protected area (S. Lester, et al. 2009, García-Charton, et al. 2008). Many studies have focussed on the benefit of MPAs to fish and fisheries, where the evidence is equivocal and highly dependent on the species and its life history with more mobile species showing less or no benefits (Stewart, et al. 2008). Recent studies (Fenberg, et al., 2012) have provided more information for temperate waters and benthic habitats to help counter assertions that evidence showing the benefits of high levels of protection is only relevant to fish species in tropical waters, coral reefs and rocky reefs. However, there is evidence that not all HPMPAs will provide the same benefits and issues such as location, size and compliance will determine their effectiveness.

4.1.68 JNCC and Natural England therefore **agree** with the SAP's assessment that the regional MCZ projects have not succeeded in meeting ENG Guideline 16. Whilst we do not fully agree with all their recommendations, we do concur with the SAP on the need to revise the design of the areas of high protection within the network. The SAP's comment that 'as currently recommended, they are unlikely to deliver the full ecological and scientific benefits envisaged' supports our view that further work is required to implement differential management with high levels of protection to meet the aims of the network, and deliver the three benefits set out above.

4.1.69 JNCC and Natural England **suggest** a review of the current proposals is undertaken to determine if there are any proposed reference areas with a great deal of stakeholder consensus around it such that it meets the above benefits, in particular the 3rd benefit. In other words, society should be allowed to exercise its right to manage ecosystems for wider benefit (CBD Principles 2 & 12).

4.1.70 We consequently **advise** that the approach to realising all three of the benefits of high levels of protection set out above be reviewed in the light of the experience of the MCZ Project, existing literature evidence and the experience of other EU Member States and CBD Parties, in order to establish a process that will realise these benefits [within the network].

4.1.7 Summary

4.1.71 We have reviewed the information and provided our views on the rMCZ proposals submitted by the four regional MCZ projects, including any additional advice where appropriate. To facilitate Ministerial decisions on the designation of MCZs we have assessed the progress towards achieving the network design principles and the further considerations outlined in Defra Guidance Note 1 (Defra 2010b) and interpreted in the ENG (Natural England and the Joint Nature Conservation Committee, 2010).

4.1.72 The advice provided in this present section and [Annex 5](#) takes into account the differences in the data presented in the regional MCZ project reports versus the original data supplied to the regional MCZ projects by JNCC and Natural England. We need to develop a new base map of ENG features which takes into account the results of the evidence assessment and any new data which become available to JNCC and Natural England in the future. A further assessment will need to be undertaken after the submission of our advice in July which includes new information from the

evidence reviews (Sections [5.1](#) and [5.2](#)); any suggested changes to the feature and site recommendations following the results of the site assessments; and any new evidence gathered from survey work and the in-depth review (MB0116). The new base map can then be used to re-run the analysis of the contribution of existing MPAs and then recalculate replication, adequacy, viability and connectivity.

- 4.1.73 The boundaries of the regional MCZ projects areas were administrative boundaries set for the purpose of the MCZ Project. In some cases some habitats considered to have limited distribution within MCZ boundaries do extend far beyond the MCZ boundaries into waters from other administrations. Options could be explored to ascertain the potential extension of some of the recommendations to cross these boundaries, if feasible into Welsh, Northern Irish or Scottish waters, although particular attention needs to be given to the different policy approaches.
- 4.1.74 We **advise** that a full assessment of all the network design principles (including adequacy) needs to be undertaken at the biogeographical level to inform the progress towards the development of an ecologically coherent network. Any decisions made to address the shortfalls and gaps in rMCZs and rRAs highlighted in this section need to be informed by the outputs of this assessment.
- 4.1.75 Discussions on recommending reference areas started late in the stakeholder-led process and were controversial (see [Section 3.1](#)). As a result, many of the areas proposed for broad-scale habitats do not meet the site viability guidelines, and some broad-scale habitats and FOCI are not represented within the recommended reference areas at all.
- 4.1.76 We **advise** that the approach to realising all three of the benefits of high levels of protection set out above be reviewed in the light of the experience of the MCZ Project, existing literature evidence and the experience of other EU Member States and CBD Parties, in order to establish a process that will realise these benefits [within the network].

4.2. Advice on changes to the conservation objectives for recommended Marine Conservation Zones

Advice to Defra

Conservation objectives were drafted and recommended by the regional projects. JNCC and Natural England have reviewed these recommendations and advise that an alternative conservation objective may be more appropriate for some features. This advice is based on a review of all information available. In some instances JNCC or Natural England disagree with some of the initial vulnerability assessments, due to gaining extra information or first-hand experience of a site, and in a few instances we have completed some of the vulnerability assessments which were provided incomplete in the final recommendations ([Annex 7](#) contains a full list of revised conservation objectives). Our advice is provided to Defra alongside the draft conservation objectives in the final recommendations. Where alternative conservation objectives are advised an explanation is provided.

JNCC and Natural England advise that a total of 61 conservation objectives are changed from what was recommended by the regional projects. Five of these features are located in the offshore area and the remaining 56 are in the inshore area. Overall this represents less than 5% of the features recommended by the regional projects.

Twenty features changed their conservation objectives from 'recover' to 'maintain' whilst 29 objectives changed from 'maintain' to 'recover'.

Twelve features did not have a conservation objective in the final report, Natural England advises that ten of these have a 'recover' conservation objective and two have a 'maintain' objective.

JNCC and Natural England advise that greater clarity is made in future documentation between the actual conservation objective (of achieving favourable or reference condition) and the action (maintain or recover) part of the objective. This should help clarify the difference between the objective which is set and the feature's condition that is subject to change over time.

JNCC and Natural England advise stakeholders and management authorities that a 'maintain' objective does not necessarily mean that no management of activities will be required. Conversely a 'recover' objective does not necessarily mean that all activities will require significant management intervention to achieve favourable condition. JNCC and Natural England advise that the implications of any conservation objective are site specific and dependent on a number of variables, for example how the sensitivity of sub-features varies.

JNCC and Natural England advise that the assessment of a feature's condition and whether it requires recovery to achieve its conservation objective (or not) is an ongoing process informed by best available evidence. The 'action' (recover/maintain) part of the objective is likely to change over time depending on periodic reviews of evidence on its ecological state, updated activities information and improvements in the definition of favourable condition.

Key Messages

Due to the lack of direct evidence on the condition for the majority of features a vulnerability assessment (or risk based) approach was used to assess the condition of the feature and inform the conservation objective. It is important that this approach should not be interpreted as a statement of fact that the feature is known to be damaged or deteriorated or otherwise. As the vulnerability assessment process provides a proxy of feature condition there are inherent assumptions made and steps involving expert judgement

which introduce levels of uncertainty into the assessment of feature condition and therefore the conservation objective 'action' (to 'recover' or 'maintain').

Throughout the MCZ process the aim of the conservation objective of a feature (to achieve favourable or reference condition) has been integrated with the action (to recover to or maintain in the desired condition). This has resulted in some confusion between the actual conservation objective (favourable (or reference) condition) and what action needs to be undertaken (maintain or recover).

Greater clarity should be made in future documentation between the actual conservation objective (of achieving favourable (or reference) condition) and the action (maintain or recover) part of the objective. This should help clarify the difference between the objective which is set and the feature's condition that is subject to change over time. All features that are presently considered to be in unfavourable condition should change in time with the appropriate management measures to favourable condition. This will therefore result in a change in the conservation objective's action from 'recover' to 'maintain'.

A significant focus has been placed in the MCZ process on understanding if the recommended features are considered to be in unfavourable or favourable condition (and therefore require a 'recover' or 'maintain' objective). Whilst this is a beneficial exercise in informing the possible implications of the recommendations, it is important for stakeholders and management authorities to understand that a 'maintain' objective does not necessarily mean that no management of activities will be required. Conversely a 'recover' objective does not necessarily mean that all activities will require significant management intervention to achieve favourable condition. The implications of any conservation objective are site specific and dependent on a number of variables, for example how the sensitivity of sub-feature varies.

4.2.1 Aims of this section

4.2.1 This section aims to provide advice to Defra on recommended changes in the conservation objectives of some of the recommended Marine Conservation Zone (rMCZ) features.

4.2.2 Overview of section

4.2.2 This section provides our advice to Defra on any feature where JNCC and/or Natural England recommend a change in the conservation objective proposed by the regional projects. JNCC and Natural England developed Conservation Objective Guidance (COG) for the regional projects on conservation objective development (Natural England & JNCC 2011a).

4.2.3 Background to setting conservation objectives

4.2.3 A conservation objective is a statement describing the ecological/geological state (quality) of a feature for which an MCZ is designated. The objective of all recommended MCZ features is to achieve favourable (and in some cases reference) condition. Reference condition is where the absence of anthropogenic activity would result very minor, changes to the values of the hydromorphological, physico-chemical, and biological quality (Natural England and the Joint Nature Conservation Committee 2010) and is at the 'upper end' of favourable condition (see **Figure 12** for more detail).

4.2.4 The conservation objective establishes whether the feature meets the desired state and should be maintained, or falls below it and should be recovered to favourable condition (Natural England & JNCC 2011a). The conservation objective statement is made up of two parts; the aim i.e. that the feature is to be in favourable or reference condition; and (dependent on the assessment of current condition i.e. favourable or unfavourable), the action that may be required (to maintain in or recover to favourable condition).

- 4.2.5 It is important to separate the two parts of the conservation objective. The first part of the objective will not change and is set at the feature to be in favourable (and in some cases reference) condition. However, the second part is likely to change with time. For example, should a feature be considered to be in unfavourable condition, a recover objective is recommended. Management measures may then be introduced to remove/reduce pressures and allow the feature to recover. Should information indicate that the feature has recovered and is currently in favourable condition then the recover objective may no longer be appropriate and revised to maintain. Aside from the issue of recovery, another reason for a change in the objective may be when the original assessment of feature condition, based on best available evidence is contradicted by more up-to-date direct survey of condition or an improvement in the analysis of existing data (as is the case in relation to the fisheries standardisation analysis). In such instances it would be appropriate to revise the original conservation objective.
- 4.2.6 A similar conservation objective framework has been used for other terrestrial and marine designations. This includes Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The structure developed for MCZs aims to integrate and ensure consistency, as much as is feasible, with other designated site processes.
- 4.2.7 In addition, 65 areas have been recommended where the objective is to achieve 'reference condition' which is at the upper end of favourable condition. The definition and purpose of reference areas is described in the Ecological Network Guidance (ENG) (Natural England and the Joint Nature Conservation Committee 2010).
- 4.2.8 [Section 3.1](#) of this advice describes the process for the development of conservation objectives in the four regional MCZ projects and how stakeholders were engaged in producing conservation objectives for the recommended features.
- 4.2.9 The overall objective for a feature to be in favourable (or reference) condition will not change over time. However, the condition and therefore whether the objective has been met will change. These changes will inform whether the feature requires recovery to favourable (or reference) condition or whether it should be maintained. Condition and its assessment is influenced by changes in:
- our understanding of what constitutes ecological quality of the features
 - management regimes
 - exposure to pressures associated with different ongoing and/or new activities and natural variation and
 - the scientific understanding of the sensitivity of the species or habitat.
- 4.2.10 JNCC and Natural England **advise** that a significant focus has been placed in the MCZ process on understanding if the recommended features are considered to be in unfavourable or favourable condition (and therefore require a 'recover' or 'maintain' objective). Whilst this is a useful exercise in informing the possible implications of the recommendations, it is important for stakeholders and management authorities to understand that a 'maintain' objective does not necessarily mean that no management of activities will be required. Conversely a 'recover' objective does not necessarily mean that all activities will require significant management intervention to achieve favourable condition. The implications of any conservation objective are site specific and dependent on a number of variables, for example sub-feature variability in sensitivity. Management authorities will inevitably require a more detailed review of the evidence before implementation of any measures to address any pressures identified by features being in unfavourable condition.
- 4.2.11 Favourable condition for each feature will be defined by JNCC and Natural England in a conservation advice package for each designated MCZ. This process will identify the ecological

attributes of each feature as well as the measures of favourable condition and the targets to be achieved. As our understanding of a feature's natural variability improves with time, these attributes and targets will be reassessed in an iterative process. The production of the conservation advice package for each site will be developed in parallel with the designation process.

4.2.4 Assessment of condition to inform the conservation objective

- 4.2.12 Where the regional MCZ projects did not have direct evidence of MCZ feature condition, a vulnerability assessment was used, as a proxy, to set a conservation objective for the feature. JNCC and Natural England consider a feature vulnerable when it is exposed to a pressure to which it is sensitive (see [Glossary](#)). The process to be followed was outlined in the MCZ Project COG (Natural England & JNCC 2011a).
- 4.2.13 A feature's vulnerability to damage or deterioration is an indicator of current likely condition. This should not be interpreted as a statement of fact that the feature is known to be damaged or deteriorated or otherwise. As the vulnerability assessment process provides a proxy of feature condition there are inherent assumptions made and steps involving expert judgement which introduce levels of uncertainty into the assessment of feature condition, as well as uncertainties regarding the quality of spatial data for activities and features. These uncertainties are reflected in the protocol developed to assess confidence in condition – see Annex 2 of protocol F (Natural England & JNCC 2012f). However, in the absence of direct evidence of feature condition, a vulnerability assessment is considered the best available evidence to inform feature condition (Natural England & JNCC 2012f).
- 4.2.14 A general principle was applied in the setting of a feature's draft objective that, when the vulnerability was moderate to high to any pressure, it was unlikely to be in favourable condition and a recover objective would be most appropriate (Natural England & JNCC 2011a). JNCC and Natural England jointly developed an integrated table that made it possible to cross-reference the feature sensitivity matrix (Tillin, Hull and Tyler-Walters 2010) and the pressures-activities matrix (JNCC 2010c). It allowed regional projects to extract a list of the activities which can create pressures to which a feature is sensitive. Regional MCZ project staff and regional stakeholder groups, with JNCC and Natural England support, then assessed exposure (see [Glossary](#)) using activity data provided through the MB0106 Defra contract (Cefas & ABPmer 2010) as well as local knowledge and information. This process identified if any activities were occurring to which the feature was considered to be moderately or highly vulnerable, thus informing the setting of the draft conservation objective.
- 4.2.15 The approach to setting conservation objectives was outlined in the Conservation Objective Guidance, to be followed by the regional MCZ projects in their recommendations (Natural England & JNCC 2011a). It is explained in the guidance that the approach to setting MCZ feature condition is precautionary in the absence of direct evidence of feature condition. When assessing feature condition using a vulnerability assessment approach, the regional MCZ projects were guided to use the MB0102 sensitivity matrix in the following precautionary manner: where a range of sensitivities is provided to a single pressure for a feature, then the highest in the range is adopted for that pressure's sensitivity and the vulnerability assessed using a combination of sensitivity and exposure. This is precautionary and thus lowers confidence in this aspect of the vulnerability assessment, as described in protocol F's Annex (Natural England & JNCC 2012f). The advice provided here regarding feature confidence and appropriateness of the conservation objective (see [Section 5.2](#)) takes this into consideration when reviewing the vulnerability assessments provided by the regional projects in their final recommendations.

4.2.16 Please note that for sites proposed in the Balanced Seas region which include features defined through the Regional Environmental Characterisation (REC) work, Natural England have assessed in this section only the conservation objectives for features proposed by the RSG for designation (see the amendments report published by Balanced Seas (2011b) for changes they made to conservation objectives). Therefore all back-translated features, which are stated as 'not proposed' in either the Balanced Seas final or amendments reports, have been removed from this assessment.

4.2.5 JNCC and Natural England's review of draft conservation objectives

4.2.17 Conservation objectives were drafted and recommended by the regional projects. JNCC and Natural England have reviewed these recommendations and advise that an alternative conservation objective may be more appropriate for some features. In some instances (especially in the Balanced Seas region) that JNCC and Natural England worked with the project team, in the development of the vulnerability assessments and the production of the conservation objectives provided in the final recommendations. This was due to limited time and resources to undertake this complex task, as well as a need expressed in some instances by regional project staff. The conservation objectives were presented to the regional stakeholder group which to varying degrees, discussed and made changes and comments accordingly, before submission in the site assessment documents and the regional final recommendations.

4.2.18 This advice is based on a review of all information available to JNCC and Natural England within the time constraints of these assessments. In some instances JNCC or Natural England disagree with some of the initial vulnerability assessments, due to gaining extra information or first-hand experience of a site, and in a few instances we have completed some of the vulnerability assessments which were provided incomplete in the final recommendations ([Annex 7](#) contains a full list of revised conservation objectives). In addition, regional project amendment reports were taken into account. Our advice is provided to Defra alongside the draft conservation objectives in the final recommendations. Where alternative conservation objectives are advised an explanation is provided.

4.2.19 [Section 5.3](#) lists additional evidence sources and survey work that may improve assessments of feature condition. Any future assessment of feature condition using this evidence may update the required action (to recover or maintain) to achieve the conservation objective.

4.2.20 A protocol was not developed to guide decision-making regarding our advice on appropriate conservation objectives for features. JNCC and Natural England have jointly produced an externally reviewed guidance on how to set conservation objectives as defined in the Conservation Objective Guidance (Natural England & JNCC 2011a), as well as peer reviewed advice on fisheries and other sectors. Additionally, we followed the methods outlined in [Annex 6](#) to assess exposure to fishing pressures to inform our advice. We reviewed the final recommendations, taking into consideration whether or not, in our view, the guidance and advice provided to the regional projects had been taken into account. Where we considered our advice had not been taken into account or guidance not followed, we sought to understand why i.e. reviewed any additional information provided to us in the final recommendations and amendment reports. On review of this and any further information which has become available out with the final recommendations, we advise as to whether the conservation objective provided in the final recommendation, is appropriate.

4.2.21 The standardisation of spatial fisheries data had the most significant effect on the conservation objectives review. The fisheries standardisation improves the consistency of the data set nationally. However, due to the complex nature of assessing fisheries exposure (especially inshore) it is recognised that the data set has limitations (as described in [Annex 6](#)) and recognised in the

confidence assessments in [Section 5.2](#). The project was completed in time to be considered in the assessment but after the regional projects had reported their recommendations. Therefore, this evidence was used to review the condition of MCZ features (using the vulnerability assessment approach) during the advice assessments and is presented alongside the regional project recommendations. None of the other activity data sets would have benefited from standardisation to improve their evidence base.

4.2.22 Fishing is the activity, (in all instances for rMCZs in the offshore region and for the majority of the activities in the inshore) which has been highlighted in the final recommendations and our advice, as contributing most to the exposure to pressures to which features have been assessed as moderately to highly vulnerable. Additionally, fishing activity information which includes landings data, sightings and Vessel Monitoring Systems (VMS) can (unlike most other sectors) be provided in widely varying degrees of spatial resolution and detail regarding types and levels of effort. Therefore is it appropriate to focus effort into describing the method used to assess exposure specifically to fishing pressures and, more so for inshore, into standardising the output.

4.2.6 Method for standardising fisheries information – inshore

4.2.23 The four regional MCZ projects undertook parallel but separate processes to map inshore fishing activity. The regional MCZ projects each used data from their regions' Fishermap⁴² as well as other data including VMS (for vessels under 15m in length) to identify levels of exposure. As the exposure assessments had been undertaken on a regional rather than national basis they were not directly comparable. Therefore, Natural England integrated the outputs of the four Fishermap projects and the VMS data in order to form one nationally standardised map of fishing activity for the inshore area ([Annex 6](#) provides a detailed methodology). Because this standardised fishing map allows a directly comparable relative assessment of fishing pressures across all four regional MCZ project areas, it improves the consistency of the evidence on the relative exposure of marine features to fishing activities in the inshore area, and therefore the advice on vulnerability and condition. The methodology for this was peer reviewed by Cefas⁴³.

4.2.24 Natural England has reviewed the vulnerability assessments using the standardised fishing map and provided updated advice on conservation objectives where the results showed a difference in the level of exposure. This was quality assured by our regional advisors using their local knowledge of the sites and recommended features. Inshore fisheries standardisation assessments produced from Fishermap and VMS data were quality controlled against Natural England local adviser, Inshore Fisheries and Conservation Authority (IFCA) and Marine Management Organisation (MMO) knowledge of the fisheries activity in each rMCZ. The MCZ Project Board (26 January 2012) endorsed the use of the standardisation in the advice assessment and recommended that any changes being advised using this evidence will be presented alongside the original objectives produced by the regional projects.

⁴² Fishermap mapped the nature and extent of inshore fishing activities through a process of interviewing fishermen.

⁴³ The overall conclusion of the Cefas peer review of the fisheries standardisation method identified that although 'some aspects of the analytical process have been well considered (e.g. standardising for latitudinal effects on grid cell area, limitations of data), **the outcome of the whole process cannot be substantially improved because the input data are inadequate**'. Examples of the limitations of the input data include; a lack of representation of variation as a result of seasonality and intensity (i.e. a given number of vessels visiting a site on one occasion leads to the same estimate of activity as the same number of vessels visiting the site on many occasions) nor ii) representation of the variation in the types of fishing patterns between gear types (different fishermen described fishing activity differently on the questionnaires), such that accuracy is likely to vary with scale of activity (areas of fishing rather than defined fishing grounds are identified). Consequent of input data limitations, Cefas note that the quantification of exposure remains an approximation. However, as the standardisation provides a relative (rather than absolute) measure of exposure, quantification is an inherent expectation. In summary, as per Cefas comment, it is most useful to consider the standardisation a improvement (but not resolution) in the estimation of fisheries exposure, undertaken by the regional projects.

4.2.7 Method for standardising fisheries information – offshore and joint sites

- 4.2.25 JNCC has a process to assess feature vulnerability to pressures associated with fishing activities for offshore SACs (see [Annex 6](#)). This process was also used by JNCC to support the vulnerability assessments undertaken with the regional MCZ projects in April–May 2011. JNCC specialists undertook a quality assurance of the assessments of features in offshore draft final rMCZs in June 2011 to ensure the regional MCZ projects were using a consistent approach. In particular, JNCC checked that there was agreement where cumulative assessments had been undertaken. JNCC subsequently provided advice to the regional MCZ projects to help them develop their final MCZ recommendations.
- 4.2.26 As set out in **paragraph 4.2.19** Natural England developed a method to address the lack of standardisation in assessments using Fisherman information. This method was provided to JNCC in January 2012 and the automated output provided in late January/early February for a Natural England and JNCC workshop to review the final rMCZ conservation objectives.
- 4.2.27 JNCC reviewed the conservation objectives for offshore sites in light of information provided in the final recommendations. For joint rMCZs, JNCC and Natural England have agreed to split responsibilities for leading on the progress of these sites for the purposes of this advice (see **Table 1**). For the purposes of this advice JNCC is leading on nine of the joint rMCZs and Natural England is leading on five.
- 4.2.28 JNCC undertook an initial assessment of exposure for the joint MCZs in June 2011, using 2006–2009 VMS data. VMS data represents the best evidence on the fishing effort of vessels $\geq 15\text{m}$; providing information on location and intensity of fishing for multiple years. As most fishing vessels outside of 12nm are $\geq 15\text{m}$, it is appropriate to base offshore assessments of exposure to fishing pressures predominantly on this information.
- 4.2.29 However, in the review of conservation objectives which took place in January/February 2012, for joint sites JNCC considered the information from both the VMS method (see [Annex 6](#)) and Natural England's standardised approach (see [Annex 6](#)), and evaluated any differences between both outputs.
- 4.2.30 For offshore features there is inherently less information available to inform sub-feature variability in sensitivity. For this reason JNCC decided to not apply the adjustment to the automated standardised output which Natural England applied to its inshore sites. This adjustment was applied on the basis of information provided in the default MCZ fisheries management advice. JNCC did not feel it had enough information to justify applying this adjustment for the sites it is leading on. JNCC agreed to follow an approach for joint sites where the higher of the exposure assessments was taken for each feature because it represented the best use of most data:
- Where the Natural England Fisheries Standardisation output is higher than the JNCC abrasion exposure, JNCC assumes it is because the Natural England method has captured additional $\leq 15\text{m}$ effort from the Fisherman data and JNCC therefore adopts the exposure indicated by Natural England's output or
 - Where the Natural England Fisheries Standardisation output is lower than the JNCC abrasion exposure score derived from VMS data, JNCC assumes this is because Natural England's output relies on vessel number as an indicator of effort, which is independent of hours fished or size of vessel. However, JNCC's assessment of exposure to abrasion was based on hours fished by various fishing gears within 0.05 degree areas and therefore JNCC adopted this exposure score, because it is based on the best available information; that is, more closely approximating the scale, type and location of fishing effort.

- 4.2.31 As linkage of gear class to VMS data for non-UK vessels could only be approximated based on primary gear entries in the EU vessel register, it was not possible to perform a refined analysis of exposure to pressures from specific gear types. Thus, in estimating exposure to fishing pressures, VMS data from both UK and non-UK vessels were amalgamated to produce exposure values for broadscale gear groupings (e.g. beam trawl, otter trawl and dredge). This assumes that broad gear groupings reduce the chance of misalignment between vessel register primary gear and actual gear used during each fishing event. Where systematic errors were identified during the course of international fisheries engagement work, these errors were rectified in the analysis (e.g. Republic of Ireland “nets” was re-classified as “otter trawl” following discussions with fisheries representatives). We concluded that the risk of underestimating exposure by not including non-UK VMS data was greater than the risk of over/underestimating exposure due to misclassification of gear. Nevertheless, it is acknowledged that this introduces a level of uncertainty and caution should be exercised when interpreting the output.
- 4.2.32 JNCC and Natural England cross-checked and reviewed any advised changes on the joint sites that they agree to lead on for the advice to develop an agreed conservation objective. There are a few features within joint sites (Kentish Knock East rMCZ, Wash Approach rMCZ and Farnes East rMCZ) where our advice regarding the recommended conservation objectives remains pending. Further analysis of the inshore and offshore fisheries assessments is required to advise on the most appropriate conservation objective.
- 4.2.8 Results for the recommended changes in conservation objectives – offshore**
- 4.2.33 To inform our advice to Government as requested, JNCC has reviewed the information which was used to set the conservation objectives for recommended MCZ features located in the offshore region and joint sites which straddle the 12nm limit. This information is, almost exclusively, available in the vulnerability assessments for each feature.
- 4.2.34 Where feasible given time constraints, JNCC has also taken into consideration in its review additional information which has become available since the vulnerability assessments were undertaken. Some survey information that has been gathered during and since the vulnerability assessment process was unfortunately not available to inform this review (this is highlighted in [Section 5.3](#) of the advice) and so, in a few areas, our advice provided here may change in light of this new information.
- 4.2.35 The review of the final recommendations identified some conservation objectives that appeared not to have taken account of advice provided in June 2011 on the draft final recommendations. In these cases, JNCC considered all the information now available to it to determine whether or not it still supports the June advice or whether there is sufficient evidence to deviate from that advice. [Annex 7](#) lists those feature conservation objectives which continue to be supported by the available evidence and those where an alternative conservation objective is advised. The rationale in situations where we advise that an alternative objective is more appropriate is provided here and, as mentioned, listed in [Annex 7](#).
- 4.2.36 Prior to decision taking regarding our advice on conservation objectives for joint sites, an assessment of vulnerability to pressures associated with fishing activities (see [Annex 6](#)) was undertaken by JNCC for each feature, followed by a review of each site’s full vulnerability assessment.
- 4.2.37 In some instances, the regional MCZ projects have also clarified or changed proposals for recommended features or conservation objectives since the draft final recommendations (due to, for example, final stakeholder meetings occurring after the report deadline). An amendments report was submitted by Balanced Seas in December 2011, which summarised final changes to

recommended features and conservation objectives following final stakeholder discussions. As with all other features, all available information was reviewed prior to our advising which conservation objective was more appropriate.

- 4.2.38 Finding Sanctuary has put forward a ‘maintain’ objective for the subtidal sands broad-scale habitat in South-West Deeps (East (FS 03)). Prior to the June advice, JNCC indicated that the criteria on which JNCC had previously proposed a revision of feature sensitivity to abrasion (in this instance from moderate to low) was not sufficiently robust and therefore JNCC recommended revising the sensitivity score to abrasion back to the original provided in the MB0102 sensitivity matrix. This revision would subsequently result in moderate to high vulnerabilities to the three abrasion categories in the MB0102 sensitivity matrix and a recover objective being appropriate. JNCC reiterated this advice in June but, unfortunately, the Regional Steering Group was unable to fully consider this information prior to agreeing the final conservation objective. No additional information has been made available which would indicate that previous advice is no longer appropriate; JNCC therefore re-advises that a ‘recover’ objective would be more appropriate.
- 4.2.39 Net Gain has put forward a ‘maintain’ objective for the ross worm *Sabellaria spinulosa* reef feature in Silver Pit. JNCC **advised** in June that a recover objective was more appropriate. This was based on an examination of VMS data (aggregated over 2006–2009) which indicated that the area where the feature is thought to occur is heavily trawled by over 15m vessels. The North Eastern Inshore Fisheries and Conservation Authority (NEIFCA) has recently seen an increase in scallop dredging activity within and adjacent to its district. Up to 18 vessels of varying length and power have been reported to have fished within the Silver Pit area, and in around the rMCZ (Natural England & JNCC 2012i). JNCC reiterates its June advice of moderate to high exposure of the *S. spinulosa* reef to shallow and structural abrasion and removal of non-target species, to all of which the feature is assessed as highly sensitive, resulting in high vulnerability. Therefore, JNCC **advises** a ‘recover’ objective is appropriate.
- 4.2.40 Net Gain has recommended ‘maintain’ objectives for both subtidal sand and subtidal sands and gravels in Swallow Sand (NG 16). JNCC **advised** a precautionary recover objective in June based on its assessment of low to moderate vulnerability to pressures associated with >15m benthic trawling. In its final report Net Gain noted JNCC’s advice, but considered advice from Natural England recommending a maintain objective to be more appropriate. Further clarification from Natural England revealed that advice was intended for the Swallow Hole glacial tunnel valley geological feature which was regarded as not sensitive to pressures associated with fishing. This advice was not intended for the ecological features which Natural England agreed would be sensitive to pressures associated with fishing. Natural England’s advice in this instance was therefore taken out of context. In the absence of additional information being made available to support a ‘maintain’ objective, JNCC reiterates its June advice here and advise that a ‘recover’ objective is more appropriate.
- 4.2.41 Balanced Seas has recommended a ‘maintain’ objective for subtidal sands and gravels in Offshore Brighton (BS 14). Part of JNCC’s June advice for this feature was delayed because the vulnerability assessment provided was relatively incomplete with missing activities and associated pressures. This was mainly due to the late availability of habitat data in the vulnerability assessment process. JNCC **advised** that the vulnerability assessment should be updated and reviewed accordingly for the final recommendation. The vulnerability assessment was not amended in the final recommendation and so JNCC updated it as part of the review, adding pressures associated with fishing activities which VMS and Fisherman information indicated is occurring over the feature. JNCC assessed the feature to be moderately exposed to benthic trawling and this resulted in moderate to high vulnerability to removal of non-target species and surface, shallow and structural

abrasion. Following the process outlined in the COG, JNCC therefore advises that a 'recover' objective is appropriate for subtidal sands and gravels in Offshore Brighton.

4.2.42 Balanced Seas has recommended ross worm *Sabellaria spinulosa* reefs as a feature in Offshore Brighton (BS 14), Offshore Overfalls (BS 17) and East Meridian (BS 29). For all three features, the data currently available has been examined and does not provide an indication as to whether it is *S. spinulosa* reef which is present or just an occurrence of *S. spinulosa* species. Until further evidence is available which indicates whether or not a reef feature is present within these sites JNCC is unable to provide comment on what conservation objective is most appropriate.

Table 8 Summary table of features put forward in the final recommendation where JNCC **advises** an alternative objective is more appropriate

NB. FOCI = feature of conservation importance, HOCI = habitat of conservation importance

Regional project	Site name	Offshore/joint	Feature name	Feature type & code	CO in final report	JNCC advice
Net Gain	Silver Pit	Offshore	Ross worm (<i>Sabellaria spinulosa</i>) reefs	FOCI habitat (HOCI 16)	Maintain	Advise recover is more appropriate
Net Gain	Swallow Sand	Offshore	Subtidal sand	Broad-scale habitat A5.2	Maintain	Advise recover is more appropriate
Net Gain	Swallow Sand	Offshore	Subtidal sands and gravels (modelled)	FOCI habitat (HOCI 21)	Maintain	Advise recover is more appropriate
Balanced Seas	Offshore Brighton	Offshore	Subtidal sands and gravels	FOCI habitat (HOCI 21)	Maintain	Advise recover is more appropriate
Finding Sanctuary	South-West Deeps (East)	Offshore	Subtidal sand	Broad-scale habitat A5.2	Maintain	Advise recover is more appropriate
Balanced Seas	Offshore Brighton	Offshore	Ross worm (<i>Sabellaria spinulosa</i>) reefs	FOCI habitat (HOCI 16)	Recover	Advise pending confirmation of presence
Balanced Seas	Offshore Overfalls	Joint	Ross worm (<i>Sabellaria spinulosa</i>) reefs	FOCI habitat (HOCI 16)	Recover	Advise pending confirmation of presence
Balanced Seas	East Meridian	Joint	Ross worm (<i>Sabellaria spinulosa</i>) reefs	FOCI habitat (HOCI 16)	Recover	Advise pending confirmation of presence

Note: Non-inclusion of a feature in this table indicates that JNCC agrees with the conservation objective put forward in the final recommendation. Currently there is one exception: Balanced Seas Offshore Overfalls undulate ray *Raja undulate* where no vulnerability assessment has been provided and a maintain objective is put forward in the final recommendation. JNCC cannot provide comment as to which objective is more appropriate as further information is required to assess likely condition

4.2.9 Results for recommended changes in conservation objectives – inshore

- 4.2.43 There was a certain level of confusion and inconsistency with the conservation objectives provided by the regional projects. This included some features recommended without an objective and in the Balanced Seas region a late submission of required changes to the objectives. This has made the process of compiling and finalising conservation objectives for all of the features in the inshore area complex.
- 4.2.44 **Table 9** lists the conservation objectives that are recommended to be changed from those put forward by the regional projects. All of these changes are based on the enhanced evidence provided by the fisheries standardisation assessments and Natural England’s review of the vulnerability assessments.
- 4.2.45 There are a number of features where there is no evidence for the presence of the feature where a conservation objective has not been assigned. These features are identified in [Section 5.1](#). In addition, there are further features recommended for designation identified (for a variety of reasons) in [Section 4.1](#) which are not supported by Natural England and may not have a conservation objective confirmed. These are also highlighted in the full results listing of confidence assessments in conservation objectives in [Annex 7](#). All changes in conservation objectives were reviewed through discussion and agreement with national specialists and regional conservation advisers.
- 4.2.46 **Balanced Seas inshore area results**
- Dover to Deal rMCZ has four conservation objectives where Natural England **advises** a change in the conservation objective:
 - High energy infralittoral rock (A3.1) and Moderate energy infralittoral rock (A3.2) - a ‘recover’ conservation objective was originally proposed for this feature due to (regionally-assessed) exposure to fishing (benthic trawling), but following the Natural England fisheries activity standardisation assessment assessed exposure of the feature to trawling is low so a ‘maintain’ conservation objective is more appropriate. However, the Wildlife Trusts have collected diver survey video footage of the feature presence and condition. Further analysis of this evidence is required if this direct evidence highlights damage to the feature a ‘recover’ objective may be more appropriate;
 - Ross worm *Sabellaria spinulosa* reef (HOCl 16) and Subtidal Chalk (HOCl 20) - a ‘recover’ conservation objective for this feature was originally proposed despite the original vulnerability assessment recommending a ‘maintain’ objective. This was due to a higher perceived exposure to fishing (benthic trawling). Natural England advice following the fisheries activity standardisation assessment is that exposure of the feature to trawling is low so a ‘maintain’ conservation objective may be more appropriate. The Balanced Seas report states that monitoring would be required for this activity and that the trawling sector agrees to code of conduct to not trawl all year round. The Wildlife Trusts have undertaken a diver survey and contains video footage showing feature presence and condition. Further analysis of this evidence is required if this direct evidence highlights damage to the feature a ‘recover’ objective is recommended.
 - Dover to Folkestone rMCZ has six features where Natural England **advises** a change in the conservation objective:
 - Blue Mussel Beds (HOCl 1), high energy infralittoral rock (A3.1), littoral chalk communities (HOCl 11), subtidal chalk (HOCl 20), ross worm *Sabellaria spinulosa* reef (HOCl 16) and moderate energy infralittoral rock (A3.2) – the regional project proposed a ‘recover’

conservation objective for these features despite the original vulnerability assessment recommending a 'maintain' objective. This was due to a higher perceived exposure to fishing (benthic trawling). Natural England **advises** following the fisheries activity standardisation assessment that exposure of the features to trawling is low so a 'maintain' conservation objectives is recommended.

- Folkstone Pomerania rMCZ has three features where Natural England **advises** a change in the conservation objective:
 - Blue mussel beds (HOCl 1), subtidal sand (A5.2) and subtidal sand and gravels (HOCl 21) - A 'recover' conservation objective was initially recommended by the regional project (based on a regional assessment of exposure to mobile fishing gear) but the Natural England fisheries activity standardisation assessment suggests low exposure to this pressure and therefore low vulnerability. If this is the case, then a 'maintain' conservation objective may be more appropriate. It should be noted that the final recommendations state that the trawling sector has agreed to not trawl this site.
- Medway Estuary rMCZ has one feature where Natural England **advises** a change in the conservation objective for sheltered muddy gravels (HOCl 19). Although the recommendation from Balanced Seas is that the feature should have a 'maintain' conservation objective set (due to low vulnerability to existing pressures), the subsequent application of the results of the Natural England fisheries activity standardisation assessment indicates that the feature is exposed to trawling, dredging and shellfish harvesting pressures. The feature is sensitive to these pressures therefore Natural England **advises** a 'recover' conservation objective.
- Norris to Ryde rMCZ has one feature where Natural England **advises** a change in the conservation objective for subtidal mud (A5.30). Natural England **advises** that the conservation objective should be 'recover' due to the sensitivity of the feature to abrasion pressures and its exposure to shellfish harvesting, fishing with mobile and static gear, and anchoring. However, it should be noted that there is some uncertainty over the relative level of exposure to fishing activities and the vulnerability of the habitat to the anchoring activity. The Natural England fisheries activity standardisation assessment suggests moderate (bottom trawling) to high (other towed gear, static gear) exposure to fishing. The Balanced Seas local group also assessed the feature as being exposed to benthic trawling, and shellfish harvesting in particular. However, the Southern Inshore Fisheries and Conservation Authority (IFCA) had recommended a conservation objective of 'maintain' due to their assessment of fishing activity as relatively low (e.g. on a local scale), given the number of vessels regularly targeting the area and seasonality of their activity. Recreational anchoring (from both tourism and angling) certainly overlaps with the feature, and can be intensive within some areas such as Osborne Bay. Further, the feature is also exposed to unconfirmed levels of commercial anchoring.
- Offshore Foreland rMCZ has two features where Natural England **advises** a change in the conservation objective for high energy infralittoral and high energy circalittoral rock (A3.1 and A4.1). A 'recover' conservation objective was initially recommended (based on a regional assessment of exposure to bottom trawling), but the Natural England fisheries activity standardisation assessment suggests low exposure to this pressure and therefore low vulnerability. Therefore Natural England **advises** that a 'maintain' conservation objective is recommended.
- Selsey Bill and the Hounds rMCZ has one feature where Natural England **advises** a change in the conservation objective for high energy infralittoral rock (A3.1). This feature was initially

proposed by Balanced Seas with a conservation objective of 'maintain'; however, flood and coastal erosion risk management activities (FCERM) were not assessed prior to this proposal. Natural England carried out a vulnerability assessment for FCERM activities, because of two consented FCERM schemes that are occurring within the proposed boundary of the rMCZ which could impact on the features proposed – in particular A3.1 High energy infralittoral rock. The result of this assessment is that a conservation objective of 'recover' is **advised**.

- The Thames Estuary rMCZ has one feature where Natural England **advises** a change in the conservation objective for sheltered muddy gravels (HOCl 19). Although the recommendation from Balanced Seas is that the feature should have a 'maintain' conservation objective (due to low vulnerability to existing pressures), the subsequent application of the results of the Natural England fisheries activity standardisation assessment indicate that the feature is vulnerable to pressures from trawling, dredging and shellfish harvesting. The feature is sensitive to these pressures and so a 'recover' conservation objective is **advised**.
- The Swale Estuary rMCZ has three features where Natural England **advises** a change in the conservation objective for sheltered muddy gravels (HOCl 19) Subtidal mixed sediments (A5.4) and Subtidal mud (A5.3). Although the recommendation from Balanced Seas is that the features should have a 'maintain' conservation objective set (due to low vulnerability to existing pressures), the subsequent application of the results of the Natural England fisheries activity standardisation assessment indicate that the feature is vulnerable to pressures from trawling, dredging and shellfish harvesting. The feature is sensitive to these pressures; therefore a 'recover' conservation objective is **advised**.
- Utopia rMCZ has one feature where Natural England **advises** a change in the conservation objective for Fragile sponge and anthozoan communities on subtidal rocky habitat (HOCl 7). The recommendations from Balanced Seas suggested a 'recover' conservation objective for this feature in the rMCZ; due to regionally-assessed exposure to fishing (benthic trawling) pressures. The results of the Natural England fisheries activity standardisation assessment suggest that exposure to mobile and static fishing gear is relatively low. Therefore a 'maintain' conservation objective is **advised**.
- Blackwater, Crouch, Roach and Colne rMCZ has two features where Natural England **advises** a change in the conservation objective for native oyster *Ostrea edulis* (SOCl 22) and native oyster beds (HOCl 14). Although the recommendation from Balanced Seas is that the feature should have a 'maintain' conservation objective set (due to low vulnerability to existing pressures), subsequent data compiled by the Essex Wildlife Trust and the fishing industry shows a decrease in feature abundance in areas of the rMCZ and an anecdotal increase in shellfish dredging. The feature is sensitive to these pressures therefore a 'recover' conservation objective is **advised**.

4.2.47 Finding Sanctuary inshore area results

- The regional project recommendation did not contain any objectives for the European Eel (*Anguilla anguilla*) feature (SOCl 31). Therefore for the 10 sites affected (see **Table 9**) a generic approach is advised and a 'recover' objective is **advised**. The eel is a UK Biodiversity Action Plan (BAP) priority species and IUCN red data book listed. It is subject to recent European Regulation as follows: the European Union adopted Council Regulation No 1100/2007 of 18 September 2007 establishing measures for the recovery of the stock of European Eel. Within each management plan, Member States need to set out a number of short and long term measures intended to achieve the goal of ensuring that at least 40% of the potential production of adult eels returns to the sea to spawn. The Eel Management plan for the south west river basin district was

published in March 2010, this includes the ten rMCZs where a ‘recover’ conservation objective is **advised**.

- Bideford to Foreland Point rMCZ has one feature where Natural England **advices** a change in the conservation objective for high energy circalittoral rock (A 4.1). The ‘recover’ conservation objective proposed by Finding Sanctuary was based on a (regionally-assessed) vulnerability to benthic trawling pressures. Some benthic trawling occurs in the area; but this is thought to be very low on the northern (Ilfracombe-Lynmouth) coast, data (Natural England fisheries activity standardisation assessment) shows a low level along the western (Woolacombe-Bideford) coast; IFCA evidence suggests there is no trawling that close in (inside the pMCZ) and while there may occasionally be some activity around the mouth of the estuary, this is very occasional. Overall evidence suggests that exposure (and therefore vulnerability) is low, therefore a ‘maintain’ conservation objective is **advised**.
- Camel Estuary rMCZ (in addition to European Eel) has one feature where Finding Sanctuary did not recommend a conservation objective - intertidal mud (A2.3). Natural England **advices** a ‘maintain’ conservation objective, based on assessments of low vulnerability of the feature in the rMCZ. The Natural England fisheries activity standardisation assessment results indicate a high exposure to potting. Natural England **disagrees** and **advices** that in this instance the assessment is incorrect, due to data artefacts and the available resolution of the assessment. The feature is not exposed to other pressures to which it may be sensitive.
- Hartland Point to Tintagel rMCZ has one feature where Finding Sanctuary did not recommend a conservation objective – pink sea fan *Eunicella verrucosa* (SOC1 8). Natural England regional advisors, referring to the results of the fisheries activity standardisation assessment, assessed this feature as being at low vulnerability in relation to pressures in the rMCZ. Against potting activities, the national fisheries assessment indicated ‘moderate exposure’; however, given lack of evidence (both site specific and generally) regarding the effects of potting on the feature, Natural England **advices** that a conservation objective of ‘maintain’ is recommended.
- Padstow Bay and Surrounds rMCZ has two features where a change to the conservation objective is **advised** for both stalked jellyfish *Lucernariopsis cruxmelitensis* (SOC1 19) and spiny lobster *Palinurus elephas* (SOC1 24).
 - *Lucernariopsis cruxmelitensis* is a stalked jellyfish associated with shallow rock features and was originally assessed as being moderately exposed to potting by Finding Sanctuary. The Natural England fisheries activity standardisation assessment results support this, however, given the lack of evidence (both site specific and general) regarding the effects of potting on the feature, Natural England **advices** that a conservation objective of ‘maintain’ is appropriate. (NB. It is highly likely that the Finding Sanctuary Final recommendations report has a mistake of ‘recover’ and a resulting mix-up with the adjacent feature conservation objective. This has been recognised due to the Finding Sanctuary final recommendations summary booklet states it should be “maintain”).
 - There is evidence that spiny lobster *Palinurus elephas* is in unfavourable condition in all SW waters. The species is highly sensitive to the removal of individuals. High sensitivity and indicated exposure to potting activity (Natural England fisheries activity standardisation assessment) has resulted in an assessment of moderate vulnerability and therefore Natural England **advices** that a conservation objective of ‘recover’ would be appropriate. (NB. It is highly likely that the FS Final recommendations report has a mistake of ‘maintain’ and a resulting mix-up with the adjacent feature conservation objective. This has been recognised due to the FS final recommendations summary booklet stating ‘recover’).

- Poole Rocks rMCZ has two features where a change to the conservation objective is **advised** – Couch's goby *Gobius couchi* (SOCl 12) and native oyster *Ostrea edulis* (SOCl 22).
 - Although the Natural England fisheries activity standardisation assessment and the vulnerability assessment suggests states that there is no scallop dredging in the area and no (or very limited) trawling (as it is not a suitable ground), Couch's goby *Gobius couchi* is a very localised rare and protected species, and has only been recorded in 4 locations in the UK. Natural England **advises** a 'recover' conservation objective, as the species is vulnerable to any trawling that does take place.
 - Natural England **advises** that a conservation objective of 'recover' as there is an open and unrestricted public fishery, which poses a risk of deterioration in the absence of management. Native oyster *Ostrea edulis* is vulnerable to benthic trawling through abrasion and removal. Trawling for *O. edulis* currently occurs at low intensity in the rMCZ primarily due to unsuitability of the rocky habitat for the gear type (although trawling does occur at greater intensity further north, outside the rMCZ boundary).
- Skerries Bank and surrounds rMCZ has one feature where a change to the conservation objective is **advised** for moderate energy circalittoral rock (A4.2). Although Finding Sanctuary recommended this feature with a 'maintain' conservation objective, Natural England **advises** that 'recover' objective would be more appropriate. This is due to the feature's exposure to bottom trawling. This is different to the result of the Natural England fisheries activity standardisation assessment (which suggests low exposure to benthic trawling). However, there are areas (Zone 3 of the South Devon Inshore Potting Agreement), which permit trawling between 1st Jan & 31st Mar and is located over a proportion of the area of this habitat in the rMCZ. In addition a 'corridor' is open to fishing from 1st March to 31st March where this feature is recommended. The habitat is highly sensitive to shallow abrasion and surface abrasion. The area is open seasonally but is thought to be fished at moderate/high intensity during the open period. Natural England **advises** that a 'recover' conservation objective would be appropriate.
- Studland Bay rMCZ has one feature where a change to the conservation objective is **advised** for undulate ray *Raja undulate* (SOCl 33). The site is not exposed to benthic trawling, and if targeted by rod and line anglers, there is mandatory live release. Therefore due to the apparent low vulnerability of the feature in this rMCZ, Natural England **advises** that a 'maintain' conservation objective would be appropriate.
- Tamar Estuary rMCZ has six features where Natural England **advises** a change to the conservation objective this includes – European eel *Anguilla Anguilla* (SOCl 31), blue mussel beds (HOCl 1), intertidal biogenic reefs (A2.7), Intertidal coarse sediment (A2.1), smelt *Osmerus eperlanus* (SOCl 32) and native oyster *Ostrea edulis* (SOCl 22).
 - Although Finding Sanctuary suggest a 'maintain' conservation objective for blue mussel beds (SOCl 1), intertidal biogenic reefs (A2.7), intertidal coarse sediment (A2.1) and native oyster *Ostrea edulis* (SOCl 22) due to the estimated exposure to industrial and agricultural discharges Natural England **advises** that a 'recover' conservation objective is recommended. Ecological status under the Water Framework Directive (WFD) in the rMCZ is 'good', but the chemical status is 'fail' due to industrial production and storage areas along the estuary (within the rMCZ) and agricultural run-off into the Tamar and Tavy from agricultural land. The sewerage works on the estuary banks within the rMCZ and six consented discharges (domestic properties (non-water company)) also contribute to high vulnerability of the feature.

- For *Osmerus eperlanus* (Smelt) a 'recover' conservation objective is **advised** based on advice from the Environment Agency. The smelt is a UK BAP priority species. Although there is no commercial fishery for smelt in the Tamar the widespread decline of the species and its disappearance from a number of estuaries in the UK are cause for concern, a 'recover' conservation objective reflects the vulnerability of the smelt to fishing and pollution pressure. The smelt is an elegant indicator of ecosystem health, being very sensitive to a broad range of environmental degradation pressures, including over-fishing, loss of spawning habitat, blockage to migration and water quality impacts. Populations are very prone to sudden crashes as a result of one or more of the above factors. In one example on the Thames estuary in May, 2007, a water quality incident that drew no observations of fish mortality at the time may have eradicated the entire 0+ year class in the estuary. This left a footprint within the length frequency records for the species for 2 years (T.George, *pers. comm.*). The species is also very vulnerable to over-fishing. Smelt only lives for 4-6 years, with only 2-3 adult year classes.
- The Manacles rMCZ has two features where a change to the conservation objective is **advised** - maerl beds (HOCl 12) and subtidal macrophyte-dominated sediment (A5.5). The Natural England fisheries activity standardisation assessment indicates that there may be some low levels of trawling in the rMCZ. Although the feature may potentially be 'not exposed' to the pressure due to proximity of feature to rocky habitat, it is a very sensitive feature, on low lying ground, and therefore Natural England **advises** that a precautionary approach be taken and that a conservation objective of 'recover' is recommended.
- Torbay rMCZ has one feature where a change to the conservation objective is **advised** for long snouted seahorse *Hippocampus guttulatus* (SOCl 15). The seagrass habitat associated with this feature has been exposed to bottom trawling, specifically from cuttlefish fishing and scalloping (a voluntary agreement now exists limiting mobile fishing gear over the seagrass beds). The feature has a high sensitivity to these pressures, although the exposure may have been infrequent, it is likely that recovery to the species and the associated habitats will take considerable time. In addition, recreational anchoring occurs in this site, and can result in abrasion to the seagrass habitat. Based on these factors, Natural England **advises** a 'recover' conservation objective would therefore be appropriate. This 'recover' conservation objective for long snouted seahorse *Hippocampus guttulatus* is therefore reflective of a 'recover' conservation objective for its dependent habitat (seagrass beds).
- Whitsand and Looe Bay rMCZ has two features where a change to the conservation objective is **advised** for both pink sea fan *Eunicella verrucosa* (SOCl 8) and sea-fan anemone *Amphianthus dohrnii* (SOCl 2). The Natural England fisheries standardisation assessment indicates that there may be moderate levels of trawling in the rMCZ. Although the feature may not be exposed to the pressure due to being potentially associated with wrecks, rather than reef habitat. However, they are very sensitive features, potentially exposed to a moderate level of trawling, and therefore Natural England **advises** that a precautionary approach be taken and that a conservation objective of 'recover' is appropriate.

4.2.48 Irish Sea Conservation Zone inshore area results

- Cumbria Coast rMCZ has one feature where a change to the conservation objective is **advised** for Black Guillemot (non-ENG 18). The RSPB have provided photographic evidence to the IS CZ project that high boat speeds cause disturbance to loafing, preening and foraging seabirds in the vicinity of St Bees Head (RSPB submission to IS CZ 10/6/2011 of Black guillemot: vulnerability and proposed management measures advice paper). Natural England **advises**

that this would be consistent with a 'recover' rather than a 'maintain' objective. In addition evidence was provided by the North West IFCA of a previous incident where a number of seabirds were drowned by entanglement in a gill net. The North West IFCA confirmed that subsequent successful action had been taken to discourage use of gill nets in the vicinity of St Bees Head.

4.2.49 Net Gain inshore area results

- Castle Ground rMCZ has one feature where a change to the conservation objective is **advised** for intertidal mud (A2.3). This feature occurs in a single location in the site within Scarborough Harbour. Net Gain's initial vulnerability assessment did not account for any activities within the harbour however, Natural England is aware that navigational dredging occurs and the area is subject to anchoring. In consideration of these activities and their associated pressures, Natural England **advises** that a 'recover' objective for this feature would be more appropriate. (However, please note that Natural England has also advised that this area is not truly representative of intertidal mud habitats and has recommended that the harbour area not included within the rMCZ – please see [Annex 5](#) for further details.)

4.2.10 Conclusions

4.2.50 JNCC and Natural England **advises** that a total of 61 conservation objectives are changed from what was recommended by the regional projects. Five of these features are located in the offshore area and the remaining 56 are in the inshore area. Overall this represents less than 5% of the features recommended by the regional projects.

4.2.51 Twenty features changed their conservation objectives from 'recover' to 'maintain' whilst 29 objectives changed from 'maintain' to 'recover'.

4.2.52 Twelve features did not have a conservation objective in the final report, Natural England **advises** that ten of these have a 'recover' conservation objective and two have a 'maintain' objective.

4.2.53 JNCC identified three features for the ross worm (*Sabellaria spinulosa*) reef where a conservation objective could not be advised due to uncertainty in its presence. We are awaiting further feedback from Defra regarding Annex I features which are being put forward for designation in MCZs and our advice may subsequently be revised.

4.2.11 Discussion

4.2.54 Throughout the MCZ process the aim of the conservation objective of a feature (to achieve favourable or reference condition) has been integrated with the action (to recover to or maintain in the desired condition). This has resulted in some confusion between the actual conservation objective (favourable or reference condition) and what action needs to be undertaken (maintain or recover). JNCC and Natural England **advise** that greater clarity is made in future documentation between the actual conservation objective (of achieving favourable or reference condition) and the action (maintain or recover) part of the objective. This should help clarify the difference between the objective which is set and the feature's condition that is subject to change over time.

4.2.55 JNCC and Natural England **advise** that the assessment of a feature's condition and whether it requires recovery to achieve its conservation objective (or not) is an ongoing process informed by best available evidence. The action (maintain or recover) part of the objective is likely to change over time depending on periodic reviews of evidence on its ecological state, updated activities information and improvements in the definition of favourable condition. [Section 5.2](#) provides an assessment on the present confidence JNCC and Natural England have in the condition of the features in rMCZs.

Table 9 Inshore features where Natural England is advising a change to the conservation objective made in the regional project recommendations
 NB. BSH = broad-scale habitat, FOCI = feature of conservation importance, HOCl = habitat of conservation importance, SOCl = species of conservation importance

Region	Name of rMCZ	Feature name	Feature type & code	Advised change in conservation objective
Balanced Seas	Dover to Deal	High energy infralittoral rock	BSH A3.1	Recover to Maintain
		Moderate energy infralittoral rock	BSH A3.2	Recover to Maintain
		Ross worm <i>Sabellaria spinulosa</i> reef	FOCI habitat (HOCl 16)	Recover to Maintain
		Subtidal chalk	FOCI habitat (HOCl 20)	Recover to Maintain
Balanced Seas	Dover to Folkestone	Blue Mussel Beds	FOCI habitat (HOCl 1)	Recover to Maintain
		High energy infralittoral rock	BSH A3.1	Recover to Maintain
		Littoral chalk communities	FOCI habitat (HOCl 11)	Recover to Maintain
		Moderate energy infralittoral rock	BSH A3.2	Recover to Maintain
		Ross worm <i>Sabellaria spinulosa</i> reef	FOCI habitat (HOCl 16)	Recover to Maintain
		Subtidal chalk	FOCI habitat (HOCl 20)	Recover to Maintain
Balanced Seas	Folkstone Pomerania	Blue Mussel Beds	FOCI habitat (HOCl 1)	Recover to Maintain
		Subtidal sand	BSH A5.2	Recover to Maintain
		Subtidal sand gravels	FOCI habitat (HOCl 21)	Recover to Maintain
Balanced Seas	Medway Estuary	Sheltered muddy gravels	FOCI habitat (HOCl 19)	Maintain to Recover

Region	Name of rMCZ	Feature name	Feature type & code	Advised change in conservation objective
Balanced Seas	Norris to Ryde	Subtidal mud	BSH A5.3	Maintain to Recover
Balanced Seas	Offshore Foreland	High energy infralittoral rock	BSH A3.1	Recover to Maintain
		Moderate energy circalittoral rock	BSH A4.2	Recover to Maintain
Balanced Seas	Selsey Bill and the Hounds	High energy infralittoral rock	BSH A3.1	Maintain to Recover
Balanced Seas	Thames Estuary	Sheltered muddy gravels	FOCI habitat (HOCI 19)	Maintain to Recover
Balanced Seas	The Swale Estuary	Sheltered muddy gravels	FOCI habitat (HOCI 19)	Maintain to Recover
		Subtidal mixed sediments	BSH A5.4	Maintain to Recover
		Subtidal mud	BSH A5.3	Maintain to Recover
		Subtidal mixed sediments	BSH A5.4	Recover to Maintain
Balanced Seas	Utopia	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI habitat (HOCI 7)	Recover to Maintain
Balanced Seas	Blackwater, Crouch, Roach and Colne	Native oyster <i>Ostrea edulis</i>	FOCI species (SOCI 22)	Maintain to Recover
		Native Oyster <i>Ostrea edulis</i> beds	FOCI habitat (HOCI 14)	Maintain to Recover
Finding Sanctuary	Axe Estuary	European eel <i>Anguilla anguilla</i>	FOCI mobile species (SOCI 31)	No objective to Recover

Region	Name of rMCZ	Feature name	Feature type & code	Advised change in conservation objective
Finding Sanctuary	Bideford to Foreland Point	High energy circalittoral rock	BSH A4.1	Recover to Maintain
Finding Sanctuary	Camel Estuary	European eel <i>Anguilla anguilla</i>	FOCI mobile species (SOCl 31)	No objective to Recover
		Intertidal mud	BSH A2.3	No objective to Maintain
Finding Sanctuary	Dart Estuary	European eel <i>Anguilla anguilla</i>	FOCI mobile species (SOCl 31)	No objective to Recover
Finding Sanctuary	Devon Avon Estuary	European eel <i>Anguilla anguilla</i>	FOCI mobile species (SOCl 31)	No objective to Recover
Finding Sanctuary	Erme Estuary	European eel <i>Anguilla anguilla</i>	FOCI mobile species (SOCl 31)	No objective to Recover
Finding Sanctuary	Hartland Point to Tintagel	Pink sea fan <i>Eunicella verrucosa</i>	FOCI species (SOCl 8)	No objective to Maintain
Finding Sanctuary	Newquay and the Gannel	European eel <i>Anguilla anguilla</i>	FOCI mobile species (SOCl 31)	No objective to Recover
Finding Sanctuary	Otter Estuary	European eel <i>Anguilla anguilla</i>	FOCI mobile species (SOCl 31)	No objective to Recover
Finding Sanctuary	Padstow Bay and surrounds	Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	FOCI species (SOCl 19)	Recover to Maintain
		Spiny lobster <i>Palinurus elephas</i>	FOCI species (SOCl 24)	Maintain to Recover

Region	Name of rMCZ	Feature name	Feature type & code	Advised change in conservation objective
Finding Sanctuary	Poole Rocks	Couch's goby <i>Gobius couchi</i>	FOCI species (SOCl 12)	Maintain to Recover
		Native oyster <i>Ostrea edulis</i>	FOCI species (SOCl 22)	Maintain to Recover
Finding Sanctuary	Skerries Bank and surrounds	Moderate energy circalittoral rock	BSH A4.2	Maintain to Recover
Finding Sanctuary	Studland Bay	Undulate ray <i>Raja undulata</i>	FOCI mobile species (SOCl 33)	Recover to Maintain
Finding Sanctuary	Tamar estuary sites	European eel <i>Anguilla anguilla</i>	FOCI mobile species (SOCl 31)	No objective to Recover
		Blue mussel Beds	FOCI habitat (HOCl 1)	Maintain to Recover
		Intertidal biogenic reefs	BSH A2.7	Maintain to Recover
		Intertidal coarse sediment	BSH A2.1	Maintain to Recover
		Smelt <i>Osmerus eperlanus</i>	FOCI mobile species (SOCl 32)	No objective to Recover
		Native oyster <i>Ostrea edulis</i>	FOCI species (SOCl 22)	Maintain to Recover
Finding Sanctuary	The Manacles	Maerl beds	FOCI habitat (HOCl 12)	Maintain to Recover
		Subtidal macrophyte-dominated sediment	BSH A5.5	Maintain to Recover
Finding Sanctuary	Torbay	Long snouted seahorse <i>Hippocampus guttulatus</i>	FOCI species (SOCl 15)	Maintain to Recover

Region	Name of rMCZ	Feature name	Feature type & code	Advised change in conservation objective
Finding Sanctuary	Upper Fowey and Pont Pill	European eel <i>Anguilla anguilla</i>	FOCI mobile species (SOCl 31)	No objective to Recover
Finding Sanctuary	Whitsand and Looe Bay	Sea fan anemone <i>Amphianthus dohrnii</i>	FOCI species (SOCl 2)	Maintain to Recover
		Pink sea fan <i>Eunicella verrucosa</i>	FOCI species (SOCl 8)	Maintain to Recover
Irish Sea Conservation Zones	Cumbria Coast	Black Guillemot <i>Cepphus grylle</i>	non-ENG 18	Maintain to Recover
Net Gain	Castle Ground	Intertidal mud	BSh A2.3	Maintain to Recover

4.3 JNCC and Natural England response to the Science Advisory Panel assessment of the regional Marine Conservation Zone projects final recommendations

Advice to Defra

We have considered the issues and shortfalls identified by the Science Advisory Panel assessment of the recommended Marine Conservation Zones (rMCZs) and provide the following advice:

- *Representativity*

Natural England **advises** that representativity and replication for European eel are likely to be met at the biogeographic level in the Southern North Sea region, if we consider the rMCZs put forward for this species by Balanced Seas, that is, Blackwater, Crouch, Roach and Colne Estuaries rMCZ, Thames Estuary rMCZ, The Swale Estuary rMCZ. In addition, Natural England **advises** that a reassessment of best available evidence should be undertaken in the future to determine whether the identification of MCZs for this species is required to ensure its adequate representation and replication within the MPA network at the biogeographic level.

Natural England **advises** that both the broad-scale habitat A5.4 subtidal macrophyte-dominated sediments and the habitat Feature of Conservation Importance sheltered muddy gravels occur on the boulder and cobble skears in Morecambe Bay as components of the reef interest feature and are covered by the conservation objective for the reef interest feature. Consequently, Natural England does not consider it necessary for the habitats to be included within a Marine Conservation Zone (MCZ) to contribute to meeting the Ecological Network Guidance guidelines in the Irish Sea Conservation Zone region.

- *Replication*

Natural England **advises** that replication of habitat Feature of Conservation Importance maerl beds in Finding Sanctuary could better be delivered through the selection of a site such as Handfast Point in Dorset, where maerl occurs across a wider area. However, this site has not been proposed as a rMCZ.

Natural England **advises** that replication for *Padina pavonica* is likely to be met at the biogeographic level in the Eastern Channel region, if we consider the rMCZs put forward for this species in Finding Sanctuary, that is, Broad Bench to Kimmeridge Bay rMCZ, Lyme Bay recommended reference area, and Torbay rMCZ.

Natural England **advises** that there are two good examples of high energy circalittoral rock protected in existing Marine Protected Areas within the Irish Sea Conservation Zone region, that is, Morecambe Bay Special Area of Conservation and Lune Deep candidate Special Area of Conservation, that together with North St George's Channel rMCZ would meet the Ecological Network Guidance replication guidelines for high energy circalittoral rock. In the future, Natural England will update the Gap Analysis Table to reflect the contribution of existing Marine Protected Areas in protecting this habitat.

- *Adequacy*

We **advise** that further work to address the remaining shortfalls and gaps towards the development of an ecologically coherent Marine Protected Area (MPA) network needs to be informed by a full assessment of the network principles at the biogeographical level, which incorporates all the new evidence gathered in the meantime. The work to address shortfalls and gaps should be done iteratively with Defra, the Devolved Administrations and Statutory Nature Conservation Bodies, working together with stakeholders as the MPA network develops and individual MCZs are designated.

*Natural England **advise** that the area of seabed habitat, within the proposed co-location zone in West of Walney rMCZ, potentially modified by changes in hydrodynamic regime resulting from the consented or planned offshore wind farm turbines associated armouring and resulting scour pits is estimated to be around 0.8km² or 0.34% of the proposed co-location zone. The findings of this review support the conclusions of the nature conservation advice paper (Natural England & JNCC 2011b) that the area and proportion of the subtidal habitats within the proposed co-location zone that would be permanently impacted by offshore wind farm structures, directly or indirectly, would be low and less than 2%.*

- *Areas of additional ecological importance*

*We **advise** that the identification of new sites to deliver an ecologically coherent MPA network should consider the inclusion of areas of additional ecological importance to maximise their contribution to ecosystem function, biodiversity and/or resilience in the marine environment.*

- *Geological and geomorphological features of interest*

*Given the relatively low level of pick-up of Geological Conservation Review sites and geological and geomorphological features, and of geological stakeholder involvement in the MCZ process, we **advise** that further consideration with the involvement of geological stakeholders is required in order to accurately assess the adequacy of the incorporation of geological and geomorphological features in the rMCZs.*

- *Conservation objectives*

*We **advise** that further development/better understanding of feature sensitivity to pressures should be a priority area for future research.*

*We **advise** that for MCZs 'favourable condition' is the target state of features within a site when all requirements to meet site-specific conservation objective have been achieved (for the full definition see (Natural England & JNCC 2011a)).*

*We **advise** that indirect assessments of feature condition (following the vulnerability assessment method) will depend not only on the relative sensitivity to pressures of a given feature, but also on its location-specific exposure (or not) to those pressures.*

- *Monitoring and surveillance*

*We **advise** that a comprehensive activities monitoring scheme should be implemented within and adjacent to MCZs and that the responsibility for compliance monitoring (of activity against management measure) is clearly assigned to a Public Authority.*

*We **advise** that the development and implementation of long-term marine biodiversity monitoring and surveillance strategies for MCZs that would help us to 1) understand natural change and isolate that from change brought about by pressures caused by human activities, and 2) test assumptions that management of activities is being effective, should be a priority.*

*We **advise** that marine biodiversity monitoring and surveillance strategies should be supported by and integrated with activity-specific monitoring undertaken by public authorities (for example the Department of Energy and Climate Change ensuring post-construction monitoring of wind farms or the Environment Agency assessing effects of pollution discharges).*

- *Uncertainty and risk*

*Due to uncertainties associated with the adequacy conservation targets, we **advise** that adequacy should be an iterative consideration and that the Ecological Network Guidance (ENG) adequacy guidelines will need to be updated as and when new evidence becomes available.*

*We **disagree** with the Science Advisory Panel (SAP) on:*

- *The lack of representativity of tide-swept channels in Finding Sanctuary and*
- *Some of the general comments on conservation objectives.*

*We **advise** that there are three main differences between the SAP assessment and the evidence assessment in [Section 5.1](#):*

- *The evidence assessment in [Section 5.1](#) was undertaken using geographically referenced data displayed in a geographic information system. The Science Advisory Panel assessment did not use geographic information systems and therefore it is not possible to determine whether the information source actually supports the feature recommendation*
- *The evidence assessment in [Section 5.1](#) is based on the evidence available for each of the recommended features in a rMCZ; and makes a distinction between the data available to assess confidence in the a) presence and b) extent of a feature within a rMCZ. This differs to the Science Advisory Panel assessment of evidence which was undertaken at a site level, and did not explicitly consider the recommended features within a rMCZ*
- *The evidence assessment in [Section 5.1](#) considers all the evidence available to us, which may be held nationally or locally. The Science Advisory Panel assessment focused only on the evidence used by the regional MCZ projects.*

*Finally, we **advise** that the assessments of the SAP and JNCC and Natural England of the evidence base for recommended sites/features in rMCZs should be used together, and that any differences in results should be viewed as a reflection of the different methodologies adopted.*

Key messages

JNCC and Natural England have reviewed all the general and site specific recommendations from the SAP report. We agree with the SAP on that the work undertaken by regional MCZ projects and their stakeholders have gone a long way towards achieving the principles and guidelines described in the ENG and therefore offers a 'strong basis from which an ecologically coherent network of MPAs can be delivered'. We also agree with the SAP that there still remain some gaps and shortfalls which will need to be addressed.

Overall, we agree with most of the SAP's comments and advice with the exception of the lack of representativity of tide-swept channels in Finding Sanctuary, and some of the general comments on conservation objectives.

4.3.1 Aims of this section

4.3.1 The aims of this section are to:

- Provide commentary on the issues and shortfalls identified by the Science Advisory Panel (SAP) assessment of the rMCZs (Part A of the Science Advisory Panel (SAP) report (Science Advisory Panel 2011a))
- Provide practical advice on how to progress the recommendations made by the SAP (Part A of the SAP report, (Science Advisory Panel 2011a)), where possible and

- Highlight the difference in focus between the relative assessments of the SAP, and JNCC and Natural England of the evidence underpinning the recommendations, in light of the results obtained (Part B of the SAP report (Science Advisory Panel 2011b)).

4.3.2 Out of scope

4.3.2 This section does not address general qualitative comments made by the SAP (for example those that relate to the way the information was presented by the regional MCZ projects in their final reports), or comments on specific rMCZs or recommended reference areas.

4.3.3 Introduction

4.3.3 Overall, the SAP is content that the work undertaken by the regional MCZ projects offers a 'strong basis from which an ecologically coherent network of MPAs [Marine Protected Areas] can be delivered', as long as the recommended series of MCZs is implemented in full (Science Advisory Panel 2011a).

4.3.4 The SAP considers that the majority of the Ecological Network Guidance (ENG) guidelines (Natural England and the Joint Nature Conservation Committee 2010) have been met. Nevertheless, it recognises that there are still shortfalls and uncertainties that will need to be addressed. Equally, in our own assessment of the rMCZs against the network principles, outlined in the ENG, we have identified similar issues and shortfalls (see [Section 4.1](#)).

4.3.5 The following sub-sections, that is, **4.3.4** and **4.3.5**, offer commentary on the issues identified by the SAP (quoted below), clarifying areas of uncertainty and providing practical advice on how to progress the recommendations made by the SAP, where possible. Subsequently, in **sub-section 4.3.6**, we offer an explanation of the difference in focus between the SAP's and JNCC and Natural England's assessments of the evidence underpinning the recommendations, to enable a clearer understanding of the differences in the results.

4.3.6 An explanation is provided in areas where our advice differs from that of the SAP, recognising the independence of the SAP advice.

4.3.4 JNCC and Natural England commentary on the SAP assessment of the individual sets of recommendations against the network design principles⁴⁴ and further considerations⁴⁵.

4.3.7 This section provides a commentary on the main issues and shortfalls identified by the SAP for each set of recommendations made by the regional MCZ projects (see chapters 3 to 6, (Science Advisory Panel 2011a)).

4.3.8 Where the SAP made similar comments on two or more regional MCZ projects, individual comments are either listed or summarised (as appropriate) and we provide a single answer, covering the range of issues highlighted by the SAP.

4.3.9 Our views on those design principles for which the SAP also provided general commentary (that is, viability, conservation objectives, and reference areas) are presented in **sub-section 4.3.5**.

4.3.10 The suite of rMCZs and recommended reference areas are the outcome of a stakeholder consensus-building process (see [Section 3.1](#)) focused on meeting ecological objectives (ENG

⁴⁴ The seven network design principles are representativity, replication, adequacy, viability, connectivity, protection and best available evidence (Defra 2010a).

⁴⁵ The ENG guidelines on further considerations are subdivided into 'ecological considerations' (that is, areas of additional ecological importance, impacts and feature vulnerability) and 'practical considerations' (that is, scientific value for research and monitoring, MCZ boundaries, and geological and geomorphological features of interest) (Natural England and the Joint Nature Conservation Committee 2010).

guidelines), whilst minimising socio-economic impacts. Gaps in meeting the ENG are generally linked to limited levels of stakeholder support. Limited levels of support are mainly explained by one or more of the following factors:

- Lack of confidence in the ecological data informing the presence and/or extent of features
- Uncertainty on what the socio-economic impacts of a particular proposal would be for one or more sectors and
- Time constraints.

Representativity

Issue (Finding Sanctuary) – *Tide-swept channels are not represented (...)*. (page 6)

4.3.11 Natural England **disagrees** with the SAP. Tide-swept channels are a recommended feature in eight of the eleven areas (sub-sites) of the Isles of Scilly Sites rMCZ put forward by Finding Sanctuary, that is, Gilstone to Gorregan, Men a Vaur to White Island, Tean, Tean non-disturbance area, Higher Town, Lower Ridge to Innisvouls, Smith Sound Tide Swept Channel, and the Smith Sound non-disturbance area (see pages 738-785, (Lieberknecht, et al. 2011)).

Issue (Net Gain) – *With regard to the eel, we remain unconvinced of this inability to meet the criteria given its widespread distribution and abundance in the adjacent estuaries.* (page 18)

4.3.12 Natural England **agrees** with the SAP in that Net Gain has not met the ENG representativity guidelines for European eel.

4.3.13 Nevertheless, Natural England **advises** that representativity and replication for European eel are likely to be met at the biogeographic level in the Southern North Sea region, if we consider the rMCZs put forward for this species by Balanced Seas, that is, Blackwater, Crouch, Roach and Colne Estuaries rMCZ, Thames Estuary rMCZ, The Swale Estuary rMCZ (see [Section 4.1](#) and [Annex 5](#)).

4.3.14 In addition, Natural England **advises** that a reassessment of best available evidence should be undertaken in the future to determine whether the identification of MCZs for this species is required to ensure its adequate representation and replication within the MPA network at the biogeographic level.

Issue (Irish Sea Conservation Zones) – *The rMCZ network is representative of all broad-scale habitats identified in the ENG (...) with the exception of subtidal macrophyte-dominated sediments (A5.4). The habitat FOCI [feature of conservation importance] sheltered muddy gravels are not represented either but both broadscale habitat and FOCI exist in Morecambe Bay. The RSG refused to recommend an MCZ in Morecambe Bay on the grounds that they did not wish to impose further restrictions in the existing SAC.* (page 22)

4.3.15 Natural England **agrees** with the SAP that the broad-scale habitat subtidal macrophyte-dominated sediment (A5.5) occurs within the Morecambe Bay Special Area of Conservation (SAC). In Morecambe Bay this habitat is closely associated with the SAC reef interest feature, where it consists of macrophytes growing on pebbles, cobbles and boulders derived from glacial boulder clays. Good examples of this habitat are known to occur on the cobble skear features in the South Walney channel and to the south of Roa and Foulney Islands. The distribution of the broad-scale habitat in Morecambe Bay is constrained both by the transition of these reef interest features into mobile sand banks and the shallow depth of the photic zone. Consequently, Natural England considers that the extent of this broad-scale habitat in Morecambe Bay may be substantially less than that shown by the habitat map used by the Irish Sea Conservation Zones (ISCZ) project. The reef interest feature was added to the Morecambe Bay SAC during the Habitats Directive SAC moderation process. Subtidal boulder and cobble skear communities are identified as a key sub-

feature of the reef interest feature and hence are covered by the conservation objective for the reef interest feature (Natural England 2009). However, they are not well captured within Natural England Regulation 35 advice for Morecambe Bay and the broad-scale habitat subtidal macrophyte-dominated sediment is not referred to directly in this advice. This should be considered when Natural England's conservation advice is revised. Therefore, Natural England **advises** that the broad-scale habitat subtidal macrophyte-dominated sediment forms part and is protected as a component of the Morecambe Bay SAC reef interest feature and does not need to be included within an MCZ to contribute to meeting the ENG guidelines.

4.3.16 Similarly, Natural England **agrees** with the SAP that the habitat FOCI sheltered muddy gravels occurs within Morecambe Bay SAC. This FOCI has a localised distribution in the SAC and occurs as a component of the SAC reef interest feature. As above, the FOCI has not been identified specifically within Regulation 35 advice under the reef interest feature. This should be considered when Natural England's conservation advice is revised. Therefore, Natural England **advises** that this FOCI forms part and is protected as a component of the Morecambe Bay SAC reef interest feature and does not need to be included within an MCZ to contribute to meeting ENG guidelines.

4.3.17 In conclusion, Natural England **advises** that both habitats occur on the boulder and cobble skears in Morecambe Bay as components of the reef interest feature and are covered by the conservation objective for the reef interest feature. Consequently, Natural England does not consider it necessary for the habitats to be included within an MCZ to contribute to meeting the ENG guidelines.

Replication

Issue (Finding Sanctuary) – *Of the FOCI habitats, nine of the 14 that are recorded as occurring in the region meet replication targets. Those that do not are mostly indicated as having a limited distribution in the region. However, maerl beds are not so indicated (although they do have a limited distribution) and some further consideration of this FOCI is needed.* (page 6)

4.3.18 Natural England **agrees** that whilst records of maerl species exist across the region (Table II.2.8h, (Lieberknecht, et al. 2011)), the distribution of the habitat FOCI 'maerl beds' is limited, as noted by the SAP and recognised by Finding Sanctuary (page 172, (Lieberknecht, et al. 2011)). Maerl beds are a designated sub-feature of the Fal and Helford SAC and have been put forward by Finding Sanctuary as a recommended feature of The Manacles rMCZ. If the rMCZ is designated, maerl beds will be replicated within the region. Additionally, Finding Sanctuary has recommended a reference area for maerl beds (that is, the Fal recommended reference area) within the boundary of the Fal and Helford SAC.

4.3.19 Natural England is content with the single recommendation made by Finding Sanctuary to protect maerl beds in its region as it complements the existing MPA, but queries the quality and extent of maerl within The Manacles rMCZ. Given the tight boundary around the rocky reef interest feature there is limited representation of sediment habitats, and hence limited representation of maerl. Natural England **advises** that replication could better be delivered through the selection of a site such as Handfast Point in Dorset, where maerl occurs across a wider area. However, this site has not been proposed as an rMCZ.

Issue (Finding Sanctuary) – *Replication targets are met for 13 of the 29 FOCI species but many species that have not achieved such targets are either recorded at very few (sometimes one) locations or occur in existing MPAs or rMCZs/rRAs [recommended reference areas] being proposed for habitats. If those species occur in an existing MPA or a habitat rMCZ/rRA, then those presences should be recorded as contributing to the network.* (page 6)

- 4.3.20 JNCC and Natural England emphasise that only those marine features protected within existing MPAs that 1) are equivalent to either broad-scale habitats or FOCI, 2) are listed as designated features, and 3) have conservation objectives (COs) contribute towards the network design principles of representativity, replication, adequacy and connectivity (Natural England & JNCC 2012h). In instances where a species FOCI is recorded within an existing MPA, but not afforded protection through a conservation objective, the regional MCZ projects had the option of recommending an MCZ that overlapped with the existing MPA to formally protect that feature.
- 4.3.21 Species FOCI that are recorded in rMCZs proposed for habitat FOCI or broad-scale habitats have not always been put forward as recommended features either due to lack of stakeholder confidence in the data on the presence of the feature, or uncertainty of the impact it could have on socio-economic activities. Nevertheless, the implementation of effective management measures for habitat protection should ensure the associated species are protected.
- 4.3.22 We are content with the recommendations made by Finding Sanctuary for species FOCI, recognising the limitations in data. However, where new information becomes available we will consider adding a feature to a site.
- Issue (Balanced Seas) –** *The replication score for Padina is artificially elevated (and therefore apparently meeting target), because both replicates are within the same rMCZ. This approach is contrary to our previous advice.* (page 12)
- 4.3.23 Natural England acknowledges that the Balanced Seas region contains three replicates of peacock's tail *Padina pavonica*, occurring in a limited area around the Isle of Wight. Balanced Seas proposed this species FOCI for designation within The Needles rMCZ and Bembridge rMCZ. A number of records were found within Bembridge rMCZ, with a cluster of these records at Tyne Ledges and another cluster at Southdown Bay. The RSG noted the advice of the SAP that, although the records were geographically split, they should be considered as the same population and therefore only contribute to the replication guidelines once. However, as the decision-making group, the RSG decided that *Padina pavonica* in Bembridge could represent two replicates as they considered them to be ecologically separated (see page 47, (Balanced Seas 2011a)). The identification of an rMCZ in Freshwater Bay, the other location where *Padina pavonica* occurs within the region, was not supported by the RSG.
- 4.3.24 Natural England was part of the RSG and is content with the decision made, despite recognising that current available evidence is insufficient to determine whether or not these two clusters of records correspond to two ecologically separated populations. This decision was based on the limited evidence available for viable patch sizes for *Padina pavonica* listed in Hill et al. (2010). The alternatives were to support an additional small rMCZ solely for this species, as no other FOCI occurred within the vicinity, or to split up Bembridge rMCZ to explicitly comply with the ENG. Ecologically and socio-economically it was deemed more appropriate to support one large site, rMCZ Bembridge, rather than two or three smaller ones. In doing this more broad-scale habitat has been captured.
- 4.3.25 Natural England **agrees** with the SAP that, in line with the ENG guideline for spatially separate replicates, *Padina pavonica* is not fully replicated in Balanced Seas (Hill, et al. 2010). Nevertheless, Natural England **advises** that replication for *Padina pavonica* is likely to be met at the biogeographic level in the Eastern Channel region, if we consider the rMCZs put forward for this species in Finding Sanctuary, that is, Broad Bench to Kimmeridge Bay rMCZ, Lyme Bay recommended reference area, and Torbay rMCZ (see [Section 4.1](#) and [Annex 5](#)).

Issue (Irish Sea Conservation Zones) – *The [replication] target (...) appears to have been met (...) except in the case of High Energy Circalittoral Rock and Subtidal Macrophyte-dominated Sediments. Examples of both occur in Morecambe Bay but again the RSG's refusal to locate an rMCZ there means that these examples are not afforded the required protection.* (page 23)

- 4.3.26 Natural England **advises** that there are two good examples of high energy circalittoral rock (A4.1) protected in existing MPAs within the ISCZ region, that is, within Morecambe Bay SAC and Shell Flat and Lune Deep candidate SAC (cSAC). This broad-scale habitat supports parts of the tide-swept communities referred to in the ISCZ final recommendations report (page 44 and Table 2.7 (Irish Sea Conservation Zones 2011)) and hence should have been captured in Table 2.6 as two replicates protected in existing MPAs. In the future, Natural England will update the Gap Analysis Table to reflect the contribution of existing MPAs in protecting this habitat.
- 4.3.27 The high energy circalittoral rock supporting tide-swept communities in the South Walney channel is protected as part of Morecambe Bay SAC reef interest feature. Although these tide-swept communities are localised in extent, they were considered as a possible reference area that included high energy circalittoral rock. This was not recommended by the RSG on account of the historic and ongoing dredging programmes in the South Walney channel, immediately adjacent to these sites, to maintain access for submarines. There are further high energy circalittoral rock/reef interest features in Morecambe Bay SAC still awaiting full survey.
- 4.3.28 High energy circalittoral rock is also protected as part of the subtidal reef interest feature of the Shell Flat and Lune Deep cSAC. Natural England **advises** that together with rMCZ 3, this would meet the ENG replication guidelines for high energy circalittoral rock.
- 4.3.29 An extensive area of high energy circalittoral rock 'stony reef' habitat located within the central Irish Sea Round 3 Area of Search for offshore wind farms was not considered by the RSG, following strong opposition from some stakeholders.
- 4.3.30 For Natural England's commentary and advice on the broad-scale habitat subtidal macrophyte-dominated sediments (A5.5) please refer to **paragraph 4.3.15**.

Adequacy

Issue (Net Gain) – *Adequacy targets are met (...) with the exception of A5.3 subtidal mud which falls short of the minimum target by 83.22 km², and low energy infralittoral rock. No commentary is offered on broadscale habitats for which replication, viability and connectivity guidelines are to be used to meet the principle of adequacy.* (page 19)

- 4.3.31 JNCC and Natural England **agree** with the SAP that Net Gain did not meet the adequacy guidelines for the broad-scale habitats subtidal mud (A5.3) or low energy infralittoral rock (A3.3).
- 4.3.32 Potential options to identify additional MCZs to meet the adequacy targets for subtidal mud were considered by the RSG, but were finally ruled out in light of potential socio-economic implications.
- 4.3.33 The explanation offered by Net Gain for not having met the guidelines for low energy infralittoral rock focuses on the fact that the feature is only found in two locations, neither of which meet the viable patch size for broad-scale habitats (see page 54 (Net Gain 2011a)). Viability guidelines apply to individual MCZs and not features, and therefore Net Gain and its RSG could have explored the possibility of including patches of low energy infralittoral rock in MCZs of viable sizes.
- 4.3.34 JNCC and Natural England **advise** that further work to address these and other shortfalls and gaps towards the development of an ecologically coherent MPA network needs to be informed by a full

assessment of the network principles at the biogeographical level, which incorporates all the new evidence gathered in the meantime (for example from survey work and the in-depth review undertaken by the Defra contract MB0116⁴⁶) (for more information see [Sections 4.1](#), [5.1](#) and [5.3](#)). The work to address shortfalls and gaps should be done iteratively with Defra, the Devolved Administrations and SNCBs, working together with stakeholders as the MPA network develops and individual MCZs are designated.

4.3.35 We also **agree** with the SAP that Net Gain should have offered commentary on those broad-scale habitats for which adequacy is determined by applying the replication, viability and connectivity guidelines to their component habitat FOCI (see Table 6, (Natural England and the Joint Nature Conservation Committee 2010). As part of the site assessments in [Section 4.1](#), JNCC and Natural England have assessed whether adequacy targets have been met.

Issue (Irish Sea Conservation Zones) – *the minimum target for A5.3 Subtidal Mud will be met only if the adjoining possible co-location zone is taken into rMCZ 2 or the boundaries of other rMCZs are adjusted. [...] We have some concerns that the subtidal mud habitat in the proposed co-location zone may be altered by the effects of both increased mixing in the water column and scour on the seabed produced by the wind farm pylons. This will need to be checked, by modelling at least, before a decision is reached as to whether such a co-location would be appropriate.* (page 23)

4.3.36 The ISCZ RSG agreed a statement saying that, *inter alia*, it shared a preference to see co-location of offshore infrastructure in the West of Walney rMCZ (IS 02) co-location zone, as long as a co-location proposal could be mutually agreed between the Government and the developers. The RSG felt that it was unacceptable to ask the fishing industry to accept further impacts in addition to those it has already accepted. This was a view that JNCC and Natural England shared. Consequently, and at the request of the RSG, we have been working closely with the offshore wind farm developers and other parties to assess whether the co-location of offshore wind farms within this rMCZ would be compatible with the conservation objectives for the features present.

4.3.37 In July 2011, JNCC and Natural England published their draft nature conservation advice to the Irish Sea offshore wind farm developers to inform discussions about the potential effects of co-location in the West of Walney rMCZ (Natural England & JNCC 2011b). We have identified that there would be localised (1–2% of the site) loss or long-term damage to subtidal mud features associated with the turbine and sub-station structures, inter-array cables, and the rock armouring and scour protection which may be required to protect them. Nevertheless, we advised that such loss or damage would not prevent the remainder of the feature of achieving favourable condition. This advice also identified the potential benefits of co-location to conservation, the fishing industry, and to our understanding of these habitats.

4.3.38 In response to the SAP concerns, Natural England carried out a further review of this issue and provided its findings in a draft paper to the co-location working group (Natural England in draft). The objective of this paper was to address, using available evidence, the concerns raised by the SAP that the subtidal mud habitat in the proposed co-location zone may be altered by the effects of both increased mixing in the water column and scour on the seabed produced by the wind farm pylons.

4.3.39 The paper identified that limited modelling or direct monitoring of potential impacts of offshore wind farm structures on subtidal mud habitats had been undertaken, to date. To supplement this, the

⁴⁶ The aim of MB0116 is to build on and extend the evidence-specific work of the regional MCZ projects, which will be used to support the designation of MCZs. It will deliver a comprehensive review of the evidence used by the regional MCZ projects, and any new evidence or data used within this review.

paper considered evidence from a wider range of offshore wind farms and other case studies, environmental impact assessments (EIAs) and experimental studies.

- 4.3.40 The paper has not identified evidence from the offshore wind farm developments within the proposed co-location zone to show that middle- or far-field effects on subtidal habitats are likely to occur as a result of hydrodynamic changes caused by offshore wind farm structures. The proposed co-location zone is located within a relatively low hydrodynamic energy area, with a seabed comprised of muds and muddy sands at the southern end of the Eastern Irish Sea mud basin.
- 4.3.41 The offshore wind farm developments within the proposed co-location zone are at the lower end of the range of hydrodynamic energy environments of the offshore wind farm developments reviewed. The evidence from other offshore wind farm developments supported the conclusion that middle- and far-field modification of low energy sediment environments is unlikely to occur as a result of hydrodynamic changes induced by offshore wind farm infrastructure.
- 4.3.42 Natural England **advises** that the area of seabed habitat, within the proposed co-location zone, potentially modified by changes in hydrodynamic regime resulting from the consented or planned offshore wind farm turbines associated armouring and resulting scour pits is estimated to be around 0.8km² or 0.34% of the proposed co-location zone. The findings of this review support the conclusions of the nature conservation advice paper (Natural England & JNCC 2011b) that the area and proportion of the subtidal habitats within the proposed co-location zone that would be permanently impacted by offshore wind farm structures, directly or indirectly, would be low and less than 2%.
- 4.3.43 We are continuing to work with the ISCZ statutory bodies/offshore wind farm developers co-location working group, chaired by Defra, to seek to reduce the risks and uncertainties to both conservation and developers from a co-location.

Viability

- 4.3.44 The comments made by the SAP on viability apply to all regional MCZ projects and mainly relate to concerns about the viability of recommended reference areas. For our views on the viability issues highlighted by the SAP please refer to the paragraphs on reference areas in **sub-section 4.3.5**.

Connectivity

- 4.3.45 The main observation made by the SAP on connectivity relates to the fact that regional MCZ projects, with the exception of Net Gain, did not incorporate into their connectivity analysis MPAs adjacent to their regional project areas. These MPAs can include rMCZs in adjacent regional MCZ projects, sites being considered by the Welsh Highly Protected MCZ Project and by the Scottish MPA Project, as well as existing MPAs in international waters.
- 4.3.46 JNCC and Natural England **agree** with the SAP that, where possible, neighbouring MPAs should be considered in the analysis of connectivity at the regional MCZ project level. However, the potential to analyse connectivity between rMCZs and other existing MPAs in waters that are adjacent to the MCZ Project area is currently constrained by the lack of available data for surrounding waters. In order to make an assessment of policy commitments to create an ecologically coherent network in coming years (for example the OSPAR Convention), it is planned that data will be collated to assess connectivity at a wider scale between all MPAs in the UK and MPAs in surrounding waters of other nations.

Protection – conservation objectives

4.3.47 The comments made by the SAP on recommended draft conservation objectives apply to all regional MCZ projects. For our views on the conservation objective issues highlighted by the SAP please refer to the paragraphs on 'Conservation objectives' in **sub-section 4.3.5**.

Protection – reference areas

4.3.48 The SAP advised that the regional MCZ projects and their regional stakeholder groups have failed to recommend a complete set of viable reference areas. For our views on the reference area issues highlighted by the SAP please refer to the paragraphs on 'Reference areas' in **sub-section 4.3.5**.

Best available evidence

4.3.49 The SAP expressed three main concerns around the use of best available evidence that, despite being addressed to specific projects, apply to the MCZ Project as a whole.

Issue: need for data traceability – *To ensure that the quality of evidence underpinning decisions is not in doubt, it is important to ensure that data traceability is maintained.* (pages 9 and 20)

4.3.50 JNCC and Natural England **agree** with the advice from the SAP. To ensure data traceability and transparency regarding the use of data in the MCZ Project we have:

- Prior to the final submission, instructed the regional MCZ projects to list all sources of data used to recommend a particular feature (including stakeholder-derived data) in the Selection Assessment Document (SAD) for the site
- Instructed the regional MCZ projects to produce a data and metadata inventory of all the regional datasets used in their final recommendations (see [Annex 2](#))
- Collated metadata for the national datasets that were supplied to the regional MCZ projects. This was done by listing MEDIN discovery metadata standard compliant elements, including 'lineage'. The 'lineage' element can include information about: source material; data collection methods used; data processing methods used; and quality control processes (Seeley, et al. 2009) (see [Annex 2](#)) and
- Produced a list of all the data sources used by us to assess confidence in the presence and extent of recommended features. The list was compiled for all sites and presented by feature (see [Annex 9](#)).

Issue: need for quality control of stakeholder-derived data – *In our assessment of evidence (see part B), we noted that stakeholder-derived information and datasets were used widely in the decisions surrounding rMCZ and rRA selection. Some quality control is required on these data, and our scoring reflects this concern.* (page 15)

4.3.51 JNCC and Natural England **agree** with the SAP. In our assessment of the scientific confidence in the presence and extent of features, stakeholder-derived ecological data was subjected to the same scrutiny applied to other sources of data. A list of all the datasets used per feature, per site, is presented in [Annex 8](#).

Issue: need for improving site descriptions – *for example some key data sources that are in the form of survey reports and the results of surveys have not, apparently, been used and much more could be done to improve the site descriptions.* (page 25)

4.3.52 JNCC and Natural England **agree** with the SAP that sites descriptions can be improved and will work with Defra to update the site SADs before public consultation to incorporate the advice of both

our and the SAP assessment of rMCZs. After public consultation, site SADs will be updated as and when required.

Areas of additional ecological importance

- 4.3.53 The main concern expressed by the SAP on the use of areas of additional ecological importance in site selection applies to all regional MCZ projects, with the exception of Balanced Seas (for which no comments were made). The SAP questions whether and how areas of additional ecological importance were used to rank or prioritise areas that would similarly fulfil the guidelines in the ENG for broad-scale habitats or FOCI.
- 4.3.54 JNCC and Natural England **agree** with the SAP that the use of areas of additional ecological importance was not always systematic.
- 4.3.55 We **advise** that the identification of new sites to deliver an ecologically coherent MPA network should consider the inclusion of areas of additional ecological importance to maximise their contribution to ecosystem function, biodiversity and/or resilience in the marine environment (Natural England and the Joint Nature Conservation Committee 2010).
- 4.3.56 To find out whether an rMCZ overlaps with an area of additional ecological importance please refer to our site assessment in [Annex 5](#).

Scientific value (for research and monitoring)

Issue – *There is no evidence to suggest that rMCZs or rRAs have been chosen to maximise their utility for scientific research or to ease monitoring. Nevertheless if the network design principles are followed through to designation and a full set of viable Reference Areas is chosen and implemented a valuable research resource will be created.* (page 10 and 16)

- 4.3.57 JNCC and Natural England **agree** with the SAP in that this ENG practical consideration was given low priority by the regional MCZ projects and that overall there is little mention of this within their final reports and site SADs. Regardless of whether the scientific value of a site was the driver for a location being selected for an MCZ, some of the rMCZs have been well studied and could have high value for scientific research. Reference areas will also contribute to the scientific value of the MPA network, by providing a baseline against which to compare other areas of the wider environment and assess the effects of human pressures.

MCZ boundaries

- 4.3.58 The main comment made by the SAP on site boundaries applies to all regional MCZ projects, with the exception of Balanced Seas (for which no comments were made). The SAP was not clear how far guideline 25 (relating to incorporation of margins around features proposed for protection) was followed, since in some occasions the emphasis appeared to be on minimising perceived socio-economic conflicts rather than on encompassing features.
- 4.3.59 We **agree** with the SAP that the drawing of boundaries was largely influenced by socio-economic considerations, as would be expected in a stakeholder-led process.
- 4.3.60 We also **agree** that it is not always clear whether the ecological consideration of incorporating a margin (between the feature and the site boundary) to ensure the protection of the recommended features was taken into account in MCZ design. As acknowledged in the ENG, this guideline is not always applicable, particularly when drawing boundaries for sites with multiple features and/or for sites that incorporate only a discrete section of an extensive broad-scale habitat.

4.3.61 These recommended boundaries are site boundaries, not management boundaries. Public Authorities are responsible for determining which management measures are needed to reduce the risk of damage to the features associated with human activities, whether taking place within or outside the site boundary. Consequently, management measures may have different boundaries to the site boundary. This follows the approach taken for SACs for Annex I habitats (JNCC 2008).

4.3.62 For our assessment of the suitability of site-specific boundaries please see [Annex 5](#).

Geological and geomorphological features of interest

4.3.63 The SAP was content with the degree to which the four regional MCZ projects have incorporated geological and geomorphological features of interest in their recommendations.

4.3.64 JNCC and Natural England **agree** that the degree of incorporation of geological and geomorphological features within rMCZs has furthered geoconservation in the marine environment and represents an important step forward. However, given the relatively low level of pick-up of Geological Conservation Review (GCR) sites and geological and geomorphological features, and of geological stakeholder involvement in the MCZ process, we **advise** that further consideration with the involvement of geological stakeholders is required in order to accurately assess the adequacy of the incorporation of geological and geomorphological features in the rMCZs (for more information see [Section 4.1](#)).

4.3.5 JNCC and Natural England commentary on the general comments made by the SAP

4.3.65 This section offers our views on the general comments made by the SAP in their assessment of rMCZs (see chapters 7 and 8.5 to 8.8, (Science Advisory Panel 2011a)).

Conservation objectives

Issue – *The validity and utility of the matrices⁴⁷ used especially for Broad Scale Habitats.* (page 26)

4.3.66 JNCC and Natural England acknowledge the concerns expressed by the SAP regarding the limitations of the MB0102 sensitivity matrix (Tillin, Hull and Tyler-Walters 2010), although it was generated using 'best available evidence'. Protocol F recognises the uncertainties around the vulnerability assessment process and the limitations of the information that feeds into it (for example features' sensitivities to pressures) (Natural England & JNCC 2012f). For that reason the protocol proposes a default 'low' scientific confidence for feature condition derived from a vulnerability assessment, except where additional criteria are satisfied.

4.3.67 We **agree** with the SAP that further development/better understanding of feature sensitivity to pressures is needed and we **advise** that this should be a priority area for future research.

4.3.68 **Issue** – *The implication that the removal or mediation of a [anthropogenic] pressure will result in 'recovery' of the feature. [...] recovery to desirable status may require more actions than the local removal of anthropogenic pressures. Such actions are likely to include measurement of the current status of features and similar measurements to verify whether management measures are effective in achieving goals. [...] We emphasise that removal of the damaging pressures within MCZs must be a primary goal as this will be more beneficial to marine conservation than not removing them.* (pages 26-28)

4.3.69 JNCC and Natural England highlight that the Marine and Coastal Access Act (MCAA) 2009 requires the orders made under section 116 of the Act to define an MCZ's area, its protected features and its

⁴⁷ 'The matrices' refers to the Sensitivity Matrix developed by the Defra-led research contract MB0102 (Tillin, Hull and Tyler-Walters 2010)

conservation objectives. Sections 125 and 126 of the Act outline the requirement of Public Authorities to exercise their functions in a manner that best furthers or least hinders the achievement of these conservation objectives. The purpose of MCZ conservation objectives is to describe the target ecological condition for features in a site and, as such, define the desired outcome(s) of designating the area as an MCZ (Natural England and the Joint Nature Conservation Committee 2010, Defra 2010b)).

- 4.3.70 During the development of conservation objectives for rMCZs, it was not possible to empirically assess feature condition within the rMCZ boundaries, due to a lack of direct evidence on feature condition and our limited understanding of a) what some features may look like in the absence of anthropogenic activities and b) their natural variation. Instead, the regional MCZ projects used information on feature sensitivity together with assessments of their exposure to pressures from human activities to derive the feature's vulnerability to damage or deterioration, as a proxy of feature condition (see Figure 1, (Natural England & JNCC 2011a)). Information on a feature's sensitivity to pressures was used by the regional MCZ projects to identify a range of plausible management scenarios that would contribute to remove/reduce damaging pressures within rMCZs. These management scenarios were used in the Impact Assessment to assess the potential costs of rMCZs.
- 4.3.71 We have never asserted that the removal/reduction of pressures thought to cause damage/deterioration to a feature will definitely result in a feature recovering to favourable condition, for the reasons stated previously (a and b in **paragraph 4.3.70** above). We accept that in some instances a feature may be permanently modified because of long-term exposure to pressures. We would expect condition monitoring to help us to identify such cases. Nevertheless, in the marine environment it is generally accepted that the removal/reduction of pressures to which a feature is thought to be sensitive is a valid means of ensuring a feature is given the opportunity to recover to a more natural state (Foden, Rogers and Jones 2010, HELCOM 2010).
- 4.3.72 We **agree** with the SAP that the management of damaging human-derived pressures within rMCZs should be a priority after designation in order to meet conservation objectives. Also, we will develop targets for each feature's attributes, against which favourable condition can be assessed in the future. Our confidence in these attributes and their targets in being able to accurately define favourable condition for features will increase with time as we come to understand natural change and are able to isolate that from change brought about by anthropogenic activities. We expect future research and the work of the UK Marine Biodiversity Monitoring Research and Development (R&D) Programme to contribute to this aim.
- 4.3.73 The state of features against their conservation objectives will be reported every six years (from 31 December 2012) under section 124 of the MCAA 2009. The reporting will incorporate the results of ecological monitoring, and it is likely to take account of updated data on human activities and any improvements in understanding of natural variability and feature sensitivity to human-derived pressures (Natural England & JNCC 2011a).
- 4.3.74 Working towards achieving conservation objectives is an adaptive process where any decline in feature condition will lead to the amendment of a 'maintain' objective to a 'recover' objective and trigger a review of:
- The management measures
 - Our conservation advice under section 127 of the MCAA 2009
 - The attributes/targets which define favourable condition and
 - The monitoring methods (for example frequency and intensity of sampling).

- 4.3.75 This review is expected to help us to determine whether it is the measures that are inappropriate or our understanding of what favourable condition looks like.
- 4.3.76 Similarly, where a conservation objective is achieved, a recover objective will change to a maintain objective with a review of measures to determine their continued applicability to the site.
- Issue** – *More clarity is needed as to how ‘Recover’ objectives were separated into “Recover to favourable condition” or “Recover to reference condition”, both of which imply that the favourable and reference conditions are known (...).* (page 29)
- 4.3.77 What favourable condition and reference condition mean for MCZ features is still to be determined.
- 4.3.78 JNCC and Natural England **advise** that for MCZs ‘favourable condition’ is the target state of features within a site when all requirements to meet site-specific conservation objectives have been achieved (for the full definition see (Natural England & JNCC 2011a)). In reference areas the aim is for features to achieve reference condition, which sits at the upper end of favourable condition. OSPAR (2012) defines reference condition as a state of a habitat (that is, its condition, extent and distribution) ‘at which impacts from anthropogenic pressures are absent or negligible’. Our understanding of reference condition will develop over time once damaging pressures are removed and routine monitoring will establish the nature of a feature under those conditions. At that stage, it will also be possible to define the level of activity possible to achieve an acceptable and sustainable favourable condition.
- Issue** – *the evidence base used by the Regional Projects for the determination of the pressures is not provided with the Recommendations, although some descriptive socio-economic information is provided in the iPDFs [interactive PDFs] and the results can be inferred from the COs. (...) we suggest that the evidence which is used to infer pressures should achieve quality and transparency standards similar to those which we expect to be available for defining the ecology.* (page 29)
- 4.3.79 JNCC and Natural England **agree** with the SAP’s view that the activities data used to infer human pressures should achieve similar quality and transparency standards to those applied to the ecological data.
- 4.3.80 During stakeholder group meetings, the human activities data delivered through the Defra-led contract MB0106 (Cefas & ABPmer 2010) were informally quality assured by stakeholders. As a result, on several occasions MB0106 data were superseded by more accurate datasets provided by the data providers themselves, particularly for licensed activities. [Annex 2](#) comprises a data and metadata inventory for the regionally sourced data used by the regional MCZ projects, which includes pressures and human activities datasets submitted by stakeholders.
- 4.3.81 All the human activities data used by the regional MCZ projects are included in their regional profiles and presented in interactive PDFs. The activities thought to be causing the pressures to which features are sensitive are referred to in the vulnerability assessments undertaken per feature, per site. The complete vulnerability assessment spreadsheets were provided as an annex to the final recommendations reports and are publicly available.
- 4.3.82 Furthermore, the method to assess exposure to pressures associated with fishing activities in inshore and offshore waters is provided within our advice (see [Annex 6](#)). We recognise that the assessment of exposure to pressures associated with activities (not just fishing activities) requires further development and we are actively seeking ways to improve these assessments.
- Issue** – *the same types of habitat have been allocated different draft COs [in different regional MCZ project areas] in the absence of evidence about the likely condition of these habitats.* (page 29)

4.3.83 JNCC and Natural England **advise** that indirect assessments of feature condition (following the vulnerability assessment method) will depend not only on the relative sensitivity to pressures of a given feature, but also on its location-specific exposure (or not) to those pressures. The work on vulnerability assessments and therefore conservation objectives are site-specific and will vary according to the level of exposure created by activities operating within or in the vicinity of the site. It is therefore entirely possible and valid that the same feature in two different rMCZs may have different conservation objectives, due to the differing pressures or levels of pressure to which the feature is exposed.

4.3.84 In June 2011, we undertook a national review of the vulnerability assessments and draft conservation objectives recommended by the regional MCZ projects at the time (see Annex 7). This national review aimed to identify and address any inconsistencies in the way vulnerability assessments were undertaken across all four projects, while taking into account relevant site-specific information (for more information see Sections [4.2](#) and [5.2](#)).

Issue – *There are (...) COs [conservation objectives] that SAP members do not feel reflect the condition of features (whether unaffected or affected by activities) and, all-in-all, feel that further peer review of the conclusions regarding COs is required, especially by scientists with relevant local experience.* (page 30)

4.3.85 JNCC and Natural England revised the vulnerability assessments and the draft conservation objectives recommended by the regional MCZ projects and offered a justification where our view differs from what was recommended (see Section [4.2](#) and [Annex 7](#)).

4.3.86 Additionally, we have assessed confidence in the assessments of feature condition undertaken for features in rMCZs. On multiple occasions, our confidence in likely feature condition and, consequently, in the recommended conservation objectives is low. Low confidence scores are often related to low confidence in the presence and extent of the feature, and with uncertainties around the vulnerability assessment process and the limitations of the information that feeds into it (for example a feature's sensitivities to pressures). Nevertheless, the vulnerability assessment follows a structured approach, which can be validated at every step (for more information see (Natural England & JNCC 2011a)).

4.3.87 We are seeking to strengthen the evidence base underpinning MCZ recommendations and welcome information that can improve our knowledge of feature condition. The public consultation will provide an opportunity for review and gathering additional relevant information.

Monitoring and surveillance

Issue – *Monitoring of human activities is essential (...)* (page 31)

4.3.88 JNCC and Natural England **agree** with the SAP and **advise** that a comprehensive activities monitoring scheme should be implemented within and adjacent to MCZs⁴⁸ and that the responsibility for compliance monitoring (of activity against management measure) is clearly assigned to a Public Authority.

Issue – *Monitoring of habitats and species within selected rMCZs and rRAs is recommended to test presumptions that management activities are being effective.* (page 31)

4.3.89 JNCC and Natural England **agree** with the SAP. We **advise** that the development and implementation of long-term marine biodiversity monitoring and surveillance strategies for MCZs

⁴⁸ For example through the use of Vessel Monitoring System (VMS) information to review fisheries activities.

that would help us to 1) understand natural change and isolate that from change brought about by pressures caused by human activities, and 2) test assumptions that management of activities is being effective, should be a priority. We expect the UK Marine Biodiversity Monitoring R&D Programme, led by JNCC, to contribute to this goal.

4.3.90 We **advise** that marine biodiversity monitoring and surveillance strategies should be supported by and integrated with activity-specific monitoring undertaken by public authorities (for example the Department of Energy and Climate Change (DECC) ensuring post-construction monitoring of wind farms or the Environment Agency (EA) assessing effects of pollution discharges). Natural England is undertaking research to look at the potential for integrated monitoring by developers and others, including JNCC and Natural England.

4.3.91 Ultimately, the ability to deliver a suitably rigorous programme of monitoring and surveillance in MCZs will depend on the funding and resources available from Government.

Issue – *Surveillance in recommended Reference Areas to provide baselines that describe features present and their natural variability should be a priority initially.* (page 39)

4.3.92 JNCC and Natural England **agree** with the SAP that the surveillance in reference areas should be a priority as it will both support the better understanding of the marine environment and inform the management of MPAs more generally.

Uncertainty and risk

Issue – *Some [ENG] guidelines suggest a range of acceptable targets. (...) the idea that a range is a measure of uncertainty does not seem to have been factored into decision making. The choice of the minimum of a range generally carries more risk that the objective of the target will not be achieved than if the maximum is chosen. [...] species richness is a function of the level of protection afforded to a habitat; damaged habitats are more likely to have lower biodiversity (...). This is not factored into the ENG adequacy targets and increases the risk that a minimum adequacy target for habitats under pressure will not deliver the species richness being sought. Hence we caution on the uncritical adoption of marine nature conservation being based on structural rather than functional attributes of sites. [...] We understand that socio-economic pressures have resulted in Recommendations to protect subtidal mud (A5.3) that fall below the minimum adequacy requirement in the Net Gain and ISCZ regions. For the reasons outlined above significant risks are being run that protection of the species and biotopes which depend upon this broadscale habitat will be less than adequate* (pages 32-34)

4.3.93 JNCC and Natural England **agree** with the SAP that as a result of adequacy guidelines being characterised by a range and because decisions on site boundaries were arrived at against the backdrop of socio-economic constraints, rMCZs often only achieve the minimum adequacy guidelines.

4.3.94 The adequacy guidelines were developed from habitat specific species-area curves (Rondinini 2011b). There are a number of limitations and uncertainties associated with the construction of species-area curves, and as such the conservation targets that are developed based on these results should be considered as underestimates of the true conservation targets required (Rondinini 2011a, Natural England and the Joint Nature Conservation Committee 2010). We **advise** that adequacy should be an iterative consideration, and that the ENG adequacy guidelines will need to be updated as and when new evidence becomes available.

Reference areas

Issue – *We consider that Regional Projects and their RSGs have failed to meet important requirements of the ENG to identify a complete set of viable RAs. [...] Unfortunately Regional Projects and their RSGs have interpreted guideline 9 as implying that 5x5 km (=25 km²) is the target area for a broadscale habitat reference area away from the coast (e.g. A3, A4, A5 and A6). It is not. The minimum acceptable diameter of 5 km for a single RA implies a minimum viable area of 20 km² and the goal is to achieve an average diameter of between 10 and 20 km, i.e. an average area of the broadscale habitat RAs within a region of between 80 and 310 km². [...] We suggest that this is an unsatisfactory state of affairs which will require Defra and the SNCBs [Statutory Nature Conservation Bodies] to return to the design of the Reference Area network perhaps initially by testing the outcome, physical feasibility and socioeconomic consequences of expanding the recommended RAs. (pages 35-36)*

4.3.95 JNCC and Natural England **agree** with the SAP that the regional MCZ projects recommendations, as they stand, do not comply with the ENG guidelines to identify a complete suite of viable reference areas. Overall, the recommended reference areas for broad-scale habitats do not meet the viability guidelines, many areas contain very small patches of broad-scale habitats or habitat FOCI, and none of the regional MCZ projects submitted a complete suite of reference areas with examples of all the broad-scale habitats and FOCI present within the region.

4.3.96 Nevertheless, we acknowledge the difficulties faced by the regional MCZ projects and their stakeholder groups in identifying a complete suite of reference areas, particularly in light of the restrictions on human activities that reference areas represent, and time constraints to enable detailed discussions.

4.3.97 We are considering with Defra how to deliver the high levels of protection necessary to meet the requirements for an ecologically coherent network. For further advice on reference areas see [Section 4.1](#).

4.3.6 Overview of the difference in focus between the relative assessments of the evidence by the SAP, and JNCC and Natural England

4.3.98 The SAP assessment of the evidence used to support the final recommendations (Science Advisory Panel 2011b) focused on the qualitative evaluation of the sources of data referred to in the individual rMCZ and rRA site SADs. Its assessment was done at site level and relied strictly on the information contained within the regional MCZ projects final recommendations reports. The assessment was based on three main criteria:

- Types of literature and other sources used
- Reliability and completeness of the citations and
- Personal knowledge of the SAP members.

4.3.99 The SAP concluded that a further in-depth review of data and information is required to provide a complete characterisation of the rMCZs and rRAs⁴⁹. Some of those sources of information were identified by the SAP, although it remains unclear, without having access to the detailed underlying spatial data, as to whether such sources actually refer to the recommended features within sites.

4.3.100 The SAP assessment of evidence is welcome and highlights the need for further work to increase confidence in the evidence base. However, it should be noted that the qualitative scoring of data

⁴⁹ In response, Defra has commissioned an independent in-depth review of the evidence base (Defra contract MB0116).

sources by the SAP is different to the quantitative evidence assessment undertaken by JNCC and Natural England, presented in [Section 5.1](#) and [Annex 9](#) (assessing feature presence and extent).

4.3.101 We **advise** that there are three main differences between the SAP assessment and the evidence assessment in [Section 5.1](#):

- The evidence assessment in [Section 5.1](#) was undertaken using geographically referenced data displayed in a geographic information system (GIS). The SAP assessment did not use GIS and therefore it is not possible to determine whether the information source actually supports the feature recommendation
- The evidence assessment in [Section 5.1](#) is based on the evidence available for each of the recommended features in an rMCZ; and makes a distinction between the data available to assess confidence in the a) presence and b) extent of a feature within an rMCZ. This differs to the SAP assessment of evidence which was undertaken at a site level, and did not explicitly consider the recommended features within an rMCZ
- The evidence assessment in [Section 5.1](#) considers all the evidence available to us, which may be held nationally or locally. The SAP assessment focused only on the evidence used by the regional MCZ projects.

4.3.102 When compiling the information for the evidence assessment, we took into account the scientific studies highlighted by the SAP where the data underpinning the studies were available to us. The Defra contract MB0116 will undertake a further in-depth literature review and data mining exercise to acquire datasets that were not available to us, or that may have been overlooked, at the time we undertook our assessment.

4.3.103 We **advise** that the assessments of the SAP and JNCC and Natural England of the evidence base for recommended sites/features in rMCZs should be used together, and that any differences in results should be viewed as a reflection of the different methodologies adopted.

4.3.7 Summary

4.3.104 JNCC and Natural England have reviewed all the general and site specific recommendations from the SAP report. We **agree** with the SAP on that the work undertaken by regional MCZ projects and their stakeholders have gone a long way towards achieving the principles and guidelines described in the ENG and therefore offers a 'strong basis from which an ecologically coherent network of MPAs can be delivered'. We also **agree** with the SAP that there still remain some gaps and shortfalls which will need to be addressed.

4.3.105 Overall, we **agree** with most of the SAP's comments and advice with the exception of the lack of representativity of tide-swept channels in Finding Sanctuary (**paragraph 4.3.11**), and some of the general comments on conservation objectives (please refer to the paragraphs on 'Conservation objectives' in **sub-section 4.3.5**).

4.3.106 We **advise** that further work to address the remaining shortfalls and gaps towards the development of an ecologically coherent MPA network needs to be informed by a full assessment of the network principles at the biogeographical level, which incorporates all the new evidence gathered in the meantime (for example from survey work and the in-depth review undertaken by the Defra contract MB0116) (for more information see [Sections 4.1](#), [5.1](#) and [5.3](#)). The work to address shortfalls and gaps should be done iteratively with Defra, the Devolved Administrations and SNCBs, working together with stakeholders as the MPA network develops and individual MCZs are designated.

4.3.107 Due to uncertainties associated with the adequacy conservation targets (Natural England and the Joint Nature Conservation Committee 2010, Rondinini 2011a) we **advise** that adequacy should be

an iterative consideration and that the ENG adequacy guidelines will need to be updated as and when new evidence and information becomes available.

4.3.108 We also **agree** with the SAP that it is paramount to strengthen the evidence base underpinning rMCZ, as well as our knowledge of marine ecosystems and processes. To fulfil that need we **advise** that:

- Further development/better understanding of feature sensitivity to pressures should be a priority area for future research
- The development and implementation of long-term marine biodiversity monitoring and surveillance strategies for MCZs that would help us to 1) understand natural change and isolate that from change brought about by pressures caused by human activities, and 2) test assumptions that management of activities is being effective, should be a priority. We expect the UK Marine Biodiversity Monitoring R&D Programme, led by JNCC, to contribute to this goal.
- Marine biodiversity monitoring and surveillance strategies should be supported by and integrated with activity-specific biodiversity monitoring undertaken by Public Authorities (for example DECC ensuring post-construction monitoring of wind farms or the EA assessing effects of pollution discharges) and
- A comprehensive activities monitoring scheme should be implemented within and adjacent to MCZs, and that the responsibility for compliance monitoring (of activity against measure) should be clearly assigned to a Public Authority.

4.3.109 We **advise** that there are three main differences between the Science Advisory Panel assessment and the evidence assessment in [Section 5.1](#):

- The evidence assessment in [Section 5.1](#) was undertaken using geographically referenced data displayed in a geographic information system. The Science Advisory Panel assessment did not use geographic information systems and therefore it is not possible to determine whether the information source actually supports the feature recommendation
- The evidence assessment in [Section 5.1](#) is based on the evidence available for each of the recommended features in a rMCZ; and makes a distinction between the data available to assess confidence in the a) presence and b) extent of a feature within a recommended Marine Conservation Zone. This differs to the Science Advisory Panel assessment of evidence which was undertaken at a site level, and did not explicitly consider the recommended features within a rMCZ
- The evidence assessment in [Section 5.1](#) considers all the evidence available to us, which may be held nationally or locally. The Science Advisory Panel assessment focused only on the evidence used by the regional Marine Conservation Zone projects.

4.3.110 Finally, we **advise** that the assessments of the SAP and JNCC and Natural England of the evidence base for recommended sites/features in rMCZs should be used together, and that any differences in results should be viewed as a reflection of the different methodologies adopted.

4.4. Advice on recommended features not listed in the Ecological Network

Guidance representativity guidelines

Advice to Defra

Of the 29 highly mobile species features proposed in recommended Marine Conservation Zones (rMCZs) that are not listed as being required for representativity in the Ecological Network Guidance (ENG), Natural England **advises** that 21 may be suitable for designation as this is likely to provide conservation benefits to the species. These are:

- Razorbill and guillemot in Bideford to Foreland Point rMCZ
- Black guillemot in Cumbria Coast rMCZ
- Black bream in Kingmere rMCZ
- Balearic shearwater and basking shark in Land's End rMCZ
- Razorbill, puffin, manx shearwater and guillemot in Lundy rMCZ
- Guillemot, razorbill, kittiwake, fulmar and puffin in Padstow Bay and Surrounds rMCZ
- Black-throated diver, great northern diver, slavonian grebe, great crested grebe, red-necked grebe and guillemot in Torbay rMCZ.

Natural England **notes** that although many of the bird species are protected under the Birds Directive, in the terrestrial environment SSSIs are also notified for birds. Natural England also **notes** that in line with the proposed Habitats Regulations there may be scope to designate the habitats supporting these birds.

Key messages

The Marine and Coastal Access Act 2009 (MCAA) allows for the designation of any species in Marine Conservation Zones (MCZs). Defra policy guidance describes in more detail the links between highly mobile species and MCZs, particularly features that are listed on annexes of the Habitats and Birds Directives. JNCC and Natural England provided additional guidance to the regional MCZ projects on the information they needed to provide to support proposals for features not required to meet the representativity guidelines in the ENG.

Regional stakeholder groups recommended some mobile features for designation in rMCZs that they felt should be protected. Natural England has assessed these proposals against set criteria using the evidence provided by the regional stakeholder groups.

4.4.1. Aims of this section

4.4.1. To provide an objective analysis of whether Natural England considers that designating MCZs for species proposed by regional stakeholder groups (RSG) but which are not listed in section 4.2 of the ENG (herein referred to as non-ENG⁵⁰) is appropriate and beneficial to the conservation of the species in question. This assessment reviews the suitability of non-ENG features put forward by RSGs for protection within MCZs, and the suitability of spatial protection for these highly mobile species. Please note that although the advice in this section only provides assessments of proposals for highly mobile features, there are also some proposals for benthic habitats in the Balanced Seas final recommendations, which are not listed in section 4.2 of the ENG. These

⁵⁰ Please note that Annex 2 of the ENG lists all species on the UK BAP list (The UK Biodiversity Action Plan (UK BAP) was published in 1994, and is the UK Government's response to the Convention on Biological Diversity (CBD), which the UK signed up to in 1992 in Rio de Janeiro), OSPAR threatened and declining list and Schedule 5 of the Wildlife and Countryside Act. Many of the 'non-ENG' features are listed in this Annex.

proposed features have been assessed, using to the advice protocols E and F, in other sections of the advice.

4.4.2. Introduction

- 4.4.2. The MCAA section 117(1) allows for the designation of MCZs for any marine species of flora or fauna, marine habitat or types of marine habitat and features of geological or geomorphological interest. The Act is clear that marine flora or fauna includes rare and threatened species (section 117(4)), and also that conservation includes the conservation of diversity of flora, fauna or habitats whether or not these are rare or threatened (section 117(5)). Section 123 of the MCAA states that sites in the Marine Protected Area (MPA) network (not just MCZs) should represent the range of features present in the UK marine area. (See [Section 2.1](#) for more details on the MCZ provisions of the MCAA.)
- 4.4.3. The annexes of the EC Habitats and Birds Directives specify which features should be protected in Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). Annex II of the Habitats Directive includes both species of seal found in UK waters, migratory species of fish which are found in salt and freshwater, as well as several species of cetacean.
- 4.4.4. Identification of marine SPAs is carried out at the UK level and is led by JNCC with the full collaboration of the country agencies including Natural England. Since 2000/2001, JNCC has been taking forward the identification of marine SPAs for Birds Directive Annex 1 and regularly occurring migratory species. JNCC is currently working on identifying areas suitable for classification as marine SPAs in English waters under four main strands:
- Strand 1: Extensions/additional areas to existing seabird breeding colony/site SPAs
 - Strand 2: Identification of important aggregations of non-breeding water birds in inshore areas
 - Strand 3: Identification of important 'offshore' areas used by seabirds (including within and beyond 12nm)
 - Strand 4: Identification of important areas for species not readily captured by the above – for example terns, European shag and Balearic shearwater.
- 4.4.5. Defra policy guidance states that MCZs can be designated for mobile species *where there is clear evidence that their conservation would benefit from site-based protection measures, such as where a species is present in sufficient numbers at predictable locations in order to establish meaningful site boundaries and conservation objectives* (Defra 2010b).
- 4.4.6. The Defra guidance is also clear about avoiding duplication with other legislation stating that *MCZs should only be proposed for habitats and species which are protected under the EC Habitats and Wild Birds Directives in exceptional circumstances, where they are essential to meet the ecological coherence objectives of the wider MPA network* (Defra 2010b). Defra have recently reaffirmed this policy to JNCC and Natural England.
- 4.4.7. The ENG describes all species and habitats known to be rare, threatened or declining in our seas that have been identified from existing multi-lateral environmental agreements and national legislation, and these are termed Features of Conservation Importance (FOCI). FOCI were identified from the OSPAR List of Threatened and/or Declining Species and Habitats, the UK List of Priority Species and Habitats (UK BAP) and Schedule 5 of the Wildlife and Countryside Act. Many species and habitats occur on more than one list and these duplications are detailed in Annex 2 of the ENG. However, only those FOCI species that JNCC and Natural England determined would benefit from site protection were listed as those for which MCZs should be identified to meet the guidelines against the network design principle of representativity. These are primarily species of no or low mobility. Following Defra policy guidance (Defra 2010b), species covered by Annex II of the Habitats Directive or Annex I of the Birds Directive (and migratory species) were not considered appropriate

for MCZ protection and do not feature in the representativity guidelines of the ENG (Natural England and the Joint Nature Conservation Committee 2010)

- 4.4.8. The ENG does request that three mobile species are protected within MPAs – the smelt (*Osmerus eperlanus*), the European eel (*Anguilla anguilla*) and the undulate ray (*Raja undulata*). These species were Identified and agreed through an expert workshop that included staff from JNCC, Natural England, the Environment Agency and Cefas (see box in Annex 2 of the ENG) (Natural England and the Joint Nature Conservation Committee 2010). Other highly mobile species FOCI were not considered as species for which MCZ protection was considered appropriate at that time, using the best available evidence.
- 4.4.9. The regional MCZ projects were advised that the features in section 4.2 of the ENG were not a finite list for which MCZs can be designated to comply with section 117 of the MCAA (Natural England and the Joint Nature Conservation Committee 2010). The ENG gives an example of features of local or regional importance and vulnerable marine ecosystems that RSGs may want to consider.
- 4.4.10. Following questions raised by RSGs, JNCC and Natural England produced supplementary guidance outlining a process for considering non-ENG features for protection through MCZs (JNCC & Natural England 2011a). This paper outlines the additional information JNCC and Natural England asked RSGs to provide to accompany any proposals for non-ENG features in their final recommendations and reiterates Defra policy on mobile species and MCZs.
- 4.4.11. The RSGs and project teams identified and recommended non-ENG features based on the ‘best available evidence’. All of the non-ENG features proposed as features within recommended MCZs (rMCZs) are mobile species. All of the non-ENG features proposed in rMCZs are in English inshore waters. This section provides Natural England’s assessment of these proposals. JNCC didn’t receive any information or evidence regarding proposals within offshore sites, and therefore no further assessments were undertaken.
- 4.4.3. Method**
- 4.4.12. A review of the confidence in the presence and extent of the non-ENG features has been completed along with all other proposed features in [Section 5.1](#) according to technical protocol E (Natural England & JNCC 2012e). In this section Natural England reviews the potential, according to the available evidence, for further conserving non-ENG features as designated features in rMCZs. Natural England followed the method that was proposed and agreed by the MCZ Project Board (see the inter-sessional board paper (JNCC & Natural England 2011a) by assessing each proposal against set criteria, using evidence supplied by the RSGs. Natural England assessed whether the feature is dependent upon the rMCZ area in any way, and whether it is known to aggregate, display site fidelity, or depend on the area for foraging or some other behaviour or life-cycle stage. Natural England then assessed whether the feature is known to be exposed (or is at risk of exposure) to site-based threats. Local importance of sites has been identified during the regional MCZ project phase by highlighting the presence of habitats and species of importance. This has informed an assessment of the appropriateness of site based conservation mechanisms for a given feature. This has been achieved by reviewing the threats present on a feature by feature basis for a given site, to ensure conservation objectives can be achieved.
- 4.4.13. The evidence used to make the assessments presented here was supplied by stakeholders, via the RSGs. Evidence was provided in the form of survey reports, sightings data and databases from stakeholders and the RSGs. The expert opinions of Natural England specialists were also used, where available. It should be recognised that for many mobile species there is a paucity of information on relative site importance or area-specific threats, which means that the advice given here could be open to change if additional evidence is collected in the future.

- 4.4.14. A schematic of the steps and decision process underpinning our advice on whether non-ENG features are suitable within the recommended MCZs is outlined in **Figure 7**.
- 4.4.15. A process was identified by Natural England and JNCC in order to facilitate the development of our advice to Government on the designation of non-ENG features. These features are described in an inter-sessional MCZ Project Board paper (JNCC & Natural England 2011a) and include the anthropogenic threats to non-ENG species, whether or not those threats could be mitigated through spatial protection, the existing conservation measures and the importance of the rMCZ nationally/internationally to the species in question. The justifications underpinning our advice under these categories are shown in **Table 10**. A summary of our advice by MCZ by feature is shown in **Table 11** and the locations of MCZs recommended for non-ENG feature designation are shown in **Figure 8****Error! Reference source not found.**
- 4.4.16. It should be noted that our advice is based upon expert opinion coupled with a review of the evidence base used by the regional projects at the time of recommendation. For many of the proposals it is not apparent, based on the evidence presented, whether the site has specific importance for the feature. For most of the proposals, there is little or no evidence presented to suggest that the feature is exposed, within the rMCZ, to threats which would be mitigated were the feature to be designated in that rMCZ. A Defra funded project (MB0114) looking at the efficacy of MPAs at protecting highly mobile species is currently underway. The project will assess the likely conservation benefits that MPAs could provide for highly mobile species, which will supplement this advice and aid Defra's decision making.
- 4.4.17. Please note we have not assessed the conservation objectives for these features in this section. These are assessed along with all other features in [Sections 4.2](#) and [5.2](#).
- 4.4.18. Birds have been included in this process as while Natural England recognises that SPAs provide specific protection for the most important sites (in terms of Annex I species and regularly occurring migrants), they do not provide for smaller aggregations of birds, or those that are thinly distributed. The Birds Directive includes an obligation to 'take the requisite measures to preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1', i.e. 'all species of naturally occurring birds in the wild state in the European territory of the Member State(s)' (Reid and Webb, Marine NATURA 2000 - Recommendations for the extension of existing seabird (colony) Special Protection Areas into the marine environment. 2005). MCZs could act as a mechanism to contribute to this wider obligation either through designating bird species or the habitats upon which they depend, though it should be noted that further evidence would better inform the case for designation on a site by site basis. On land, protection for birds through both the Natura 2000 network and the SSSI network are typically for nationally important or isolated populations of birds that would otherwise not be protected by the N2K network alone. There is no marine equivalent, and so MCZs could function in contributing to the wider protection, for species and populations not qualifying for SPA classification (McSorley, et al. 2006)



Figure 7 Natural England’s advice decision-making process

4.4.4 Results

Table 10 Feature ecological data and the opinions of Natural England specialists as to the potential suitability of MCZ designation for species proposed by regional stakeholder groups that are not listed in section 4.2 of the Ecological Network Guidance

Site	Feature	Threats to the feature (generally thought to negatively affect the species)	Is there evidence that these threats are present within the site?	Is there evidence that these threats could be mitigated through the MCZ?	Population/ individuals in the rMCZ – commentary on site fidelity, behaviour etc.	Existing conservation measures/ wider protection (that apply throughout the MPA network area)	Importance of area to feature	Is spatial protection appropriate?	Natural England advice
Bideford to Foreland Point (FS 43)	Razorbill <i>Alca torda</i>	Entanglement and drowning in nets	No	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	Breeding distribution is known (colony counts), but exact foraging areas unknown for this population. Variable winter distribution. Razorbill shows generally high breeding site fidelity (Robinson and Ratcliffe 2010). RSPB data supports extension of SSSI, including extensive SSSI monitoring data.	The species is a qualifying feature within English SPAs. Local population discussed here is not subject to SPA protection. SSSI designation covers birds on land (nesting) but not at sea. Annex 2 species. Wildlife and Countryside Act 1981	Yes, protection of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the species, depending on management measures implemented within the MCZ.	Spatial protection is appropriate for this feature in areas of known foraging importance.	Natural England would advise that this feature is considered for designation within the Bideford to Foreland Point rMCZ. There is insufficient data relating to foraging habits in the site, however in principle extending protection into the marine environment is supported.
		Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement	No	If this threat/impact					

		from vessels		was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	n/a	n/a					
Bideford to Foreland Point (FS 43)	Grey seal <i>Halichoers grypus</i>	Entanglement and drowning in nets	Unknown	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	Devon Records Centre holds evidence of haul out site in the area though details of the numbers involved are unclear. SW England is known to be an area of importance for grey seals (see Sea Mammal Research Unit (SMRU) unpublished data 2006).	Annex 2 species.	Site importance is unknown.	Spatial protection is appropriate for grey seals; however, sites must encompass both terrestrial and marine habitats.	Natural England would advise that this feature is not considered for designation within the Bideford to Foreland Point rMCZ. Site is not of specific importance. SSSI would be more suitable due to terrestrial protection needs.
		Disturbance / displacement from vessels	Unknown	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance					

				from boats may be of benefit.					
		Reduction of food supply by overfishing	n/a	n/a					
Bideford to Foreland Point (FS 43)	Harbour porpoise <i>Phocoena phocoena</i>	Entanglement and drowning in nets	Unknown	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage gear specific gears within the site may be beneficial.	Harbour porpoise distribution poorly understood. This site has been subject to intensive visual and acoustic survey, highlighting it as a site of specific importance for feeding (data from Devon Records Centre).	BAP species. Annex 2 species. Wildlife and Countryside Act 1981	This site is well recognised as a feeding and socialising area.	Spatial protection is appropriate for cetaceans; however, sites must be of adequate size or importance or have defined threats to be effective.	Natural England would advise that this feature is not considered for designation within the Bideford to Foreland Point rMCZ. Site-specific protection is not adequate and wider management measures are needed. In principle spatial protection is of benefit to harbour porpoise; however, sites must be of large scale and have threats present defined within them. This rMCZ has supporting evidence of
		Disturbance / displacement from vessels	Unknown	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	n/a	n/a					

									activity but it is difficult to highlight its importance on a wider scale. Therefore wider management techniques would be recommended.
Bideford to Foreland Point (FS 43)	Guillemot <i>Uria aalge</i>	Entanglement and drowning in nets	Unknown	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	Breeding distribution is known (colony counts), but exact foraging areas unknown for this population. Variable winter distribution. Guillemots show high breeding site fidelity.	Yes – the species is a qualifying feature within English SPAs. Local population discussed here is not subject to SPA protection. SSSI designation covers birds on land (nesting) but not at sea.	SSSI designation covers birds on land (nesting) but not at sea.	Spatial protection is appropriate for this feature in areas of known foraging importance.	Natural England would advise that this feature is considered for designation within the Bideford to Foreland Point rMCZ. In principle extending protection into the marine environment supported; however, no assessment of MCZ boundaries against feature's requirements has been completed, and therefore the local
		Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement from vessels	Unknown	If this threat/impact was known to be an issue in the site,					

				voluntary or statutory measures to reduce disturbance from boats may be of benefit.					importance of the site for foraging is not known.
		Reduction of food supply by overfishing	n/a	n/a					
Cumbria Coast (ISCZ 11)	Black guillemot <i>Cephus grylle</i>	Entanglement and drowning in nets	Yes (single known incident of auk bycatch)	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	Yes, 10 birds counted in 2011 at St Bees Head (Joint Nature Conservation Committee 2012) reports 10 individuals on land for 2011). Only breeding colony in England. RSPB hold supporting data (Gouldstone pers. comm. 5 April 2011)	SSSI feature (St Bees Head SSSI)	SSSI designation covers birds on land (nesting) but not at sea. Only English breeding colony. The site is located at the far south of the species range.	Yes, protection of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the species, depending on management measures implemented within the MCZ.	Natural England would advise that this feature is considered for designation within the Cumbria rMCZ. The site constitutes the only breeding site in England and therefore is of national importance in terms of range for black guillemot. Protection would be enhanced through coverage both on land and at sea.
		Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement from vessels	Unknown	If this threat/impact was known to be an issue in the site,					

				voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Kingmere (BS 16)	Black bream <i>Spondyliosoma cantharus</i>	Fishing, commercial (aggregates) dredging, trawling. Damaging the nesting shingle sediment, burrow	Yes – fishing (Sussex IFCA) – recreational and commercial pair trawls. Potential for aggregates	Fishing – potentially seek seasonal agreements in management to avoid damage to nests. Aggregates – seasonal agreements not to dredge – avoid nesting season etc.	The Kingmere Reef, and the surrounding area, is the best known and most studied example of a bream nesting site in England (James, Pearce, et al., The South Coast Regional Environmental Characterisation. 2010).	None – No total allowable catch (TAC) under Common Fisheries Policy (CFP).	The Kingmere Reef, and the surrounding area, is the best known and most studied example of a bream nesting site in England (James, Pearce, et al., The South Coast Regional Environmental Characterisation. 2010).	Yes – reducing the impact of bottom disturbance in defined areas within the site, at defined times of the year may provide benefits to the population. (James, Pearce, et al., The South Coast Regional Environmental Characterisation. 2010). Currently a code of conduct is supported by the aggregates industry and recreational and commercial fishing sectors in this MCZ which has been initiated by the Sussex IFCA. The agreement	Natural England would advise that this feature is considered for designation within the Kingmere rMCZ. Due to the benefits to the population from managing benthic disturbance pressures during key seasonal periods. Nationally this species require specific locations in the eastern English Channel to build their nests, and the Kingmere

								spatio-temporally manages the site to ensure damaging or extractive activities do not coincide with the black bream nesting season.	rMCZ is the best known example of this habitat.
		Anchoring during nesting season	Unknown	Agreements not to anchor in important areas during nesting season would provide conservation benefit.					
Land's End (FS 34)	Balearic shear-water <i>Puffinus mauretanicus</i>	Oil pollution	Unknown	n/a	Distribution is poorly understood and would likely require surveys to determine. Post-breeding Balearic shearwaters are reported on passage and wintering around south England (highest counts usually July–December). The site is an important stage on the migration route of the Balearic shearwater (Russell Wynn, pers. comm.).	Not yet, but potential feature of new SPA. Local population discussed here is not subject to SPA protection. Unsure about proportional importance, but this site not currently considered for SPA designation.	This site is recognised as of significant importance through SeaWatch southwest project (Wynn, et al. 2010) demonstrate that passage rates of Balearic shearwaters at Gwennap Head are ranked third of six such seawatching sites in the UK (1.42 birds per hour), with observations on	The benefits of spatial protection of this species are poorly defined and further consultation is needed with Dr Russell Wynn.	Natural England would advise that this feature is considered for designation within the Land's End rMCZ. In principle extending protection into the marine environment supported; however, no assessment of MCZ boundaries
		Ingestion of plastics debris	Unknown	n/a					
		Entanglement in (plastic) waste	Unknown	n/a					
		Displacement due to collision with technical structures (e.g. offshore wind farms).	Unknown	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					

							90 of 93 survey days. It cannot be ascertained whether birds are recorded more than once from such data; however, the peak day count for 2009 was 91. There is no agreed national population estimate against which to assess importance; however, the relative importance of the area puts it above three and below two other sites (note differing effort between sites urges caution).		against feature's requirements has been completed, and therefore the local importance of the site for foraging is not known. Feature has critically endangered status, and there is a total lack of protected sites for the species at this stage. Management measures would most likely be similar or complementary with basking shark and benthic protection. Extensive dataset from National Oceanographic Centre (NOC) research project available to support site importance.
Land's	Basking shark	Accidental	No	If this is	Basking shark	BAP species.	This site is one	Wider	Natural

End (FS 34)	<i>Cetorhinus maximus</i>	entanglement in fishing nets		found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial. These might be seasonally applied.	distribution is poorly understood, other than a limited number of sites identified as feeding hotspots (Speedie 2008). Basking sharks demonstrate strong site fidelity in areas where the physical structure of the seabed induces frontal development. Sites such as Land's End demonstrate consistent annual frontal developments and as such are important feeding grounds (Bloomfield and Solandt 2008).	Annex 2 species. Wildlife and Countryside Act 1981	of only very few places in the UK that has a consistently high basking shark count year on year. There has also been a huge amount of research conducted at this site to better understand the feature's behaviour and life-cycle.	management techniques would be more effective in general, though, given to the importance of this site and its well defined boundary, spatial protection would be appropriate.	England would advise that this feature is considered for designation within the Land's End rMCZ. The feature clearly demonstrates site fidelity and many of the management techniques would be simple to implement seasonally at this site. In principle spatial protection of basking sharks would be site-specific for feeding hotspots and wider management further afield. Given the life-cycle of this feature, seasonal management would be most appropriate.
		Ingestion of plastic debris	No	n/a					
		Displacement due to vessel collision and disturbance	Unknown	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit. These might be seasonally applied.					
		Fishing as target species	No	n/a (not legal)					
Land's	Bottlenose	Entanglement	No – but	If this is	A distinct small	BAP species.	This site is of	Spatial	Natural

End	dolphin <i>Tursiops truncatus</i>	and drowning in nets	generic evidence of impact in SW	found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	inshore population (reliably ID) of BND inhabits the south-west coast from Dorset to Bristol (Tregenza 1992). This population is known to number 10–15 animals and is recorded as being in decline (Tregenza pers. comm. 2011).	Annex 2 species. Wildlife and Countryside Act 1981. ASCOBANS 1992	specific importance as bottlenose dolphin travel through the area when rounding the Land's End peninsula (Dr M Whitt pers. comm. 2011).	protection may be appropriate for cetaceans; however, sites must be of adequate size or importance or have defined threats to be effective.	England would advise that this feature is not considered for designation within the Land's End rMCZ. Though in principle Natural England would support spatial protection for bottlenose dolphins, there is currently not enough evidence to show specific threats faced within the site, or the relative importance of the site to the feature within the wider context of the extensive range of the population.
		Disturbance / displacement from vessels	No – but generic evidence of impact in SW	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Land's End (FS 34)	Harbour porpoise <i>Phocoena phocoena</i>	Entanglement and drowning in nets	No – but generic evidence of impact in SW	If this is found to be having an impact upon the species in the site, then byelaws or voluntary	Harbour porpoise distribution is poorly understood. This site has been subject to intensive visual and acoustic survey, highlighting it as a site of	BAP species. Annex 2 species. Wildlife and Countryside Act 1981. ASCOBANS 1992	This site is well recognised as a feeding and socialising area.	Spatial protection is appropriate for cetaceans; however sites must be of adequate size or importance or	Natural England would advise that this feature is not considered for designation within the Land's End

				agreements to manage specific gears within the site may be beneficial.	specific importance for feeding (SeaWatch southwest project data (Wynn, et al. 2010).			have defined threats to be effective.	rMCZ. In principle spatial protection is of benefit to harbour porpoise; however, sites must be of large scale and have defined threats present within them. This rMCZ has supporting evidence of activity but it is difficult to highlight its importance on a wider scale. Therefore wider management techniques would be recommended.
		Disturbance / displacement from vessels	No – but generic evidence of impact in SW	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Lundy (FS 41)	Razorbill <i>Alca torda</i>	Entanglement and drowning in nets	Unknown	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific	Razorbill shows generally high breeding site fidelity (Robinson and Ratcliffe 2010) but colony on Lundy well established (1045 individuals on land (2008) according to (Joint Nature	Lundy no take zone, SSSI and MCZ. The species is a qualifying feature within English SPAs.	Regularly occurring migrant on Birds Directive. SSSI feature (Lundy SSSI).	Spatial protection is appropriate for the offshore foraging sites of this feature.	Natural England would advise that this feature is considered for designation within the Lundy rMCZ.

				gears within the site may be beneficial.	Conservation Committee 2012). Breeding distribution is known (colony counts), but exact foraging areas unknown for this population. Variable winter distribution				This site is supported on the extension of existing protection principle, however no detailed foraging data are available, and therefore a greater evidence base would better inform designation.
		Displacement due to collision with technical structures (e.g. offshore wind farms)	Unknown	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement from vessels	Unknown	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Other threats not relevant due to existing no take zone (NTZ)	Unknown	n/a					
Lundy (FS 41)	Puffin <i>Fratercula arctica</i>	Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.	Breeding distribution is known (colony counts), but exact foraging areas unknown for this population (Thaxter, et al. 2012 (in press)) Puffins	SSSI designation covers birds on land (nesting) but not at sea.	Site is recognised as of specific importance for breeding birds on land but foraging behaviour at sea is less well	Yes, protection of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the	Natural England would advise that this feature is considered for designation within the

		Disturbance / displacement from vessels	Unknown	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.	show high breeding site fidelity (Harris and Birkhead 1985). The species stronghold reaches its southern biological range in south England, though there are small populations in western France (Burton, et al. 2010).		defined.	species, depending on management measures implemented within the MCZ.	Lundy rMCZ. There are only three English SPAs designated for puffins, all situated in north-east England. Therefore, inclusion as MCZ feature could potentially contribute to wider conservation of the species. Extension of the SSSI boundary into the marine environment could afford further conservation benefit.
		Reduction of food supply by overfishing	No	n/a					
		Rat predation in the nest	Yes (historical threat)	Unknown					
Lundy (FS 41)	Manx shearwater <i>Puffinus puffinus</i>	Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.	Breeding distribution is known (colony counts) (Booker and Price 2010) and some information on foraging areas from tracking studies (Oxford University) for this population. Absent in winter.	Lundy no take zone	Site is recognised as of specific importance for breeding birds on land but foraging behaviour at sea is less well defined.	Yes, protection of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the species, depending on management	Natural England would advise that this feature is considered for designation within the Lundy rMCZ. Currently there
		Disturbance / displacement from vessels	Unknown	If this threat/impact was known					

				to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.	RSPB data supports foraging within the MCZ and shows a population increase due to eradication of rats in breeding colony (Booker and Price 2010)			measures implemented within the MCZ.	are no English SPAs designated for Manx shearwater. Therefore, inclusion as MCZ feature might contribute to the wider conservation of the species.
		Reduction of food supply by overfishing	No	n/a					
		Rat predation in the nest	Yes (historical threat)	Unknown					
Lundy (FS 41)	Guillemot <i>Uria aalge</i>	Entanglement and drowning in nets	Unknown	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	Breeding distribution is known (colony counts), but exact foraging areas unknown for this population. Variable winter distribution. Guillemots show high breeding site fidelity (Geary and Lock 2000).	The species is a qualifying feature within English SPAs. Local population discussed here is not subject to SPA protection.	Protection of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the species, depending on management measures implemented within the MCZ. SSSI designation covers birds on land (nesting) but not at sea.	Yes – the species is a qualifying feature within English SPAs. Local population discussed here is not subject to SPA protection. SSSI designation covers birds on land (nesting) but not at sea.	Natural England would advise that this feature is considered for designation within the Lundy rMCZ. Protection of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the species, depending on management
		Displacement due to collision with technical structures (e.g. offshore wind farms)	Unknown	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					

		Disturbance / displacement from vessels	Unknown	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					measures implemented within the MCZ
		Reduction of food supply by overfishing	No	n/a					
The Manacles (FS 32)	Basking shark <i>Cetorhinus maximus</i>	Accidental entanglement in fishing nets	No (just general threats to basking sharks)	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	Basking shark distribution is poorly understood, other than a limited number of sites identified as feeding hotspots (Bloomfield and Solandt 2008). Feeding hotspots are associated with areas of frontal development and as such sites that consistently (due to their physical structure and tidal conditions) develop tidal fronts can become basking shark hotspots (Bloomfield and Solandt 2008). Basking sharks	BAP species. Wildlife and Countryside Act 198. OSPAR species	Extensive sighting records (Cornwall Wildlife Trust records) but not clear whether this is a particularly important site for the feature.	Wider management techniques would be more effective in general.	Natural England would advise that this feature is not considered for designation within The Manacles rMCZ. Though site-specific protection can be an effective management technique this rMCZ is far too small to offer any meaningful protection to basking sharks.
		Ingestion of plastic debris	No	n/a					
		Displacement due to vessel collision and disturbance	Unknown	If this threat/impact was known to be an issue in the site, voluntary or					

				statutory measures to reduce disturbance from boats may be of benefit.	demonstrate strong site fidelity in areas where the physical structure of the seabed induces frontal development. Sites such as Land's End demonstrate consistent annual frontal developments and as such are important feeding grounds (Wynn, et al. 2010).				
		Fishing as target species	No	n/a					
The Manacles (FS 32)	Harbour porpoise <i>Phocoena phocoena</i>	Entanglement and drowning in nets	Unknown – general threat in SW	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	Harbour porpoise distribution is poorly understood. This site has been subject to intensive visual (SeaWatch SW project) and acoustic survey (Hardy and Tregenza 2012), highlighting it as a site of specific importance for feeding (Tregenza pers. comm. 2011)	BAP species. Annex 2 species. Wildlife and Countryside Act 1981. ASCOBANS 1992	This site is well recognised as a feeding and socialising area.	Spatial protection can be appropriate for cetaceans; however sites must be of adequate size or importance or have defined threats to be effective.	Natural England would advise that this feature is not considered for designation within The Manacles rMCZ. This is due to the comparatively small size of the site, and wider management measures are needed. In principle spatial protection can be of benefit to
		Disturbance / displacement from vessels	Unknown – high recreational boat activity in site but not known if a threat	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce					

				disturbance from boats may be of benefit.					harbour porpoise. However, sites must be of large scale and have the threats present within them defined. This rMCZ has supporting evidence of feeding activity but is not of adequate size to offer any meaningful protection to harbour porpoise populations. Wider management techniques should be considered.
		Reduction of food supply by overfishing	No	n/a					
Padstow Bay and Surrounds (FS 38)	Guillemot <i>Uria aalge</i>	Entanglement and drowning in nets	Unknown	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	Breeding distribution is known (colony counts), but exact foraging areas unknown for this population. Variable winter distribution. Guillemots show high breeding site fidelity (Geary and Lock 2000).	The species is a qualifying feature within English SPAs. However the local population discussed here is not subject to SPA protection. SSSI designation	Currently there are only two English SPAs designated for guillemot, both situated in north-east England (Flamborough Head and Bempton Cliffs SPA, Farne Islands SPA). Therefore, inclusion of the feature in this	Spatial protection is appropriate for this feature in areas of known foraging importance.	Natural England would advise that this feature is considered for designation within the Padstow Bay and Surrounds rMCZ. In principle extending protection into the marine

		Displacement due to collision with technical structures (e.g. offshore wind farms)	Unknown	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.		covers birds on land (nesting) but not at sea.	rMCZ as a designated feature could generally contribute to the wider conservation of this species.		environment supported. However, no assessment of MCZ boundaries against feature’s requirements has been completed, and therefore the local importance of the site for foraging is not known.
		Disturbance / displacement from vessels	Unknown	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Padstow Bay and Surrounds (FS 38)	Razorbill <i>Alca torda</i>	Entanglement and drowning in nets	Unknown	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.	Breeding distribution is known (colony counts), but exact foraging areas unknown for this population (Joint Nature Conservation Committee 2012). Razorbill show generally high breeding site fidelity (Robinson and Ratcliffe 2010).	The species is a qualifying feature within English SPAs. Local population discussed here is not subject to SPA protection. SSSI designation covers birds on land	Yes, protection of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the species, depending on management measures implemented within the MCZ	Spatial protection is appropriate for this feature in areas of known foraging importance.	Natural England would advise that this feature is considered for designation within the Padstow Bay and Surrounds rMCZ. SPA colony extensions are in place in the UK and this

		Displacement due to collision with technical structures (e.g. offshore wind farms)	Unknown	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.		(nesting) but not at sea.			would afford similar protection to SSSI populations. Designation of the population as SSSI feature indicates the (at least) regional or county importance of the population alone or as part of a seabird assemblage. Currently there is only one English SPAs designated for razorbill (Flamborough Head and Bempton Cliffs SPA). Therefore, inclusion as MCZ features could contribute to meeting the ecological coherence objectives of the wider MPA network for this species.
		Disturbance / displacement from vessels	unknown	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Padstow	Bottlenose	Entanglement	Unknown-	If this is	A distinct small	BAP species.	This site is well	Spatial	Natural

<p>Bay and Surrounds (FS 38)</p>	<p>dolphin <i>Tursiops truncatus</i></p>	<p>and drowning in nets</p>	<p>general threat in SW</p>	<p>found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be beneficial.</p>	<p>inshore population (reliably identified) of bottlenose dolphins inhabits the south-west coast from Dorset to Bristol (Tregenza 1992). This population is known to number 10–15 animals and is recorded as being in decline (Tregenza 1992).</p>	<p>Annex 2 species. Wildlife and Countryside Act 1981. ASCOBANS 1992</p>	<p>recognised as a feeding and socialising area.</p>	<p>protection may only be appropriate in areas of known importance.</p>	<p>England would advise that this feature is not considered for designation within the Padstow Bay and Surrounds rMCZ.</p> <p>Though in principle Natural England would support spatial protection for bottlenose dolphin, there is not enough data to show specific threats faced in the site, or relative local site importance in a wider context (due to the wide range of the population).</p>
		<p>Disturbance / displacement from vessels</p>	<p>Unknown High recreational boat activity in site but not known if a threat</p>	<p>If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.</p>					
		<p>Reduction of food supply by overfishing</p>	<p>No</p>	<p>n/a</p>					
<p>Padstow Bay and Surrounds (FS 38)</p>	<p>Puffin <i>Fratercula arctica</i></p>	<p>Displacement due to collision with technical structures (e.g. offshore wind farms)</p>	<p>Unknown</p>	<p>Not known – management of bird impacts from collision is not necessarily restricted to MPAs.</p>	<p>Breeding distribution is known (colony counts), but exact foraging areas are unknown for this population (RSPB SSSI monitoring data). Puffins generally show high</p>	<p>SSSI designation covers birds on land (nesting) but not at sea. However, the relative importance of the site for at-</p>	<p>Breeding distribution is known (colony counts), but exact foraging areas are unknown for this population.</p>	<p>Yes, protection of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the species if the</p>	<p>Natural England would advise that this feature is considered for designation within the Padstow Bay and Surrounds</p>
		<p>Disturbance /</p>	<p>Unknown</p>	<p>If this</p>					

		displacement from vessels		threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.	breeding site fidelity (Harris and Birkhead 1985). The species stronghold reaches its southern biological range in south England, though there are small populations in western France (Joint Nature Conservation Committee 2012).	sea foraging is unknown.		site was identified as being of particular local importance to the feature, depending on management measures implemented within the MCZ.	rMCZ. SPA colony extensions are in place in the UK and this would afford similar protection to SSSI populations. Designation of the population as SSSI feature indicates the (at least) regional or county importance of the population alone or as part of a seabird assemblage. Currently there are only two English SPAs designated for puffins, both situated in north-east England. Therefore, inclusion as MCZ features could contribute to meeting the ecological
		Reduction of food supply by overfishing	No	n/a					
		Rate predation in the net	Yes (historical threat)	Unknown					

									coherence objectives of the wider MPA network for this species.
Padstow Bay and Surrounds (FS 38)	<i>Kittiwake Rissa tridactyla</i>	Oil pollution	No	n/a	Kittiwakes show high breeding site fidelity and even foraging area fidelity is reported (Mitchell, et al. 2004)	Regularly occurring migrant on Birds Directive.	Not clear at present what specific importance this site holds for this feature.	Yes, protection of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the species, depending on management measures implemented within the MCZ	Natural England would advise that this feature is considered for designation within the Padstow Bay and Surrounds rMCZ. Breeding colonies (Mitchell, et al. 2004) are present but there is no existing site protection, so not an extension, rather a separate protection area for breeding Kittiwakes.
		Ingestion of plastic debris	No	n/a					
		Entanglement in (plastic) waste	No	n/a					
		Displacements due to and collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
Padstow	Fulmar	Oil pollution	No	n/a	Breeding	Regularly	SSSI	Yes, protection	Natural

<p>Bay and Surrounds (FS 38)</p>	<p><i>Fulmarus glacialis</i></p>	<p>Ingestion of plastic debris</p>	<p>No</p>	<p>n/a</p>	<p>distribution is known (colony counts), but exact foraging areas unknown for this population (Robinson and Ratcliffe 2010). Fulmars show high breeding site fidelity, RSPB data supports extension of SSSI.</p>	<p>occurring migrant on Birds Directive. SSSI feature Pentire Peninsula SSSI.</p>	<p>designation covers birds on land (nesting) but not at sea.</p>	<p>of the marine foraging areas and waters adjacent to the colonies used for maintenance behaviours might benefit the species, depending on management measures implemented within the MCZ</p>	<p>England would advise that this feature is considered for designation within the Padstow Bay and Surrounds rMCZ.</p> <p>There is insufficient data relating to foraging habits in the site, however in principle extending protection into the marine environment is supported.</p>
		<p>Entanglement in (plastic) waste</p>	<p>No</p>	<p>Not known – management of bird impacts from collision is not necessarily restricted to MPAs.</p>					
		<p>Displacements due to and collision with technical structures (e.g. offshore wind farms)</p>	<p>No</p>	<p>Not known – management of bird impacts from collision is not necessarily restricted to MPAs.</p>					
<p>Torbay (FS 22)</p>	<p>Black throated diver <i>Gavia arctica</i></p>	<p>Entanglement and drowning in nets</p>	<p>No</p>	<p>Yes – if this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be</p>	<p>The wintering range of black throated divers within English waters is very restricted (Joint Nature Conservation Committee 2012). The species reaches its southern range within the UK, with Torbay representing the southernmost</p>	<p>BAP priority species. Annex I of Birds Directive. Not currently protected by MCZ, but potential feature of new SPA. Local population discussed</p>	<p>Although this site is not recognised as being of international or national importance, it is of specific local importance to the feature, due to the location of the site at the southern limit of the feature's</p>	<p>Yes – MCZ designation could offer protection, from general threats that affect the species, in an area of some local importance for this species.</p>	<p>Natural England would advise that this feature is considered for designation within the Torbay rMCZ.</p> <p>Torbay is not likely to qualify as an SPA for</p>

				beneficial.	point of this range. Black throated divers are known to winter along the south coasts of Devon and Cornwall (Geary and Lock 2000). Torbay is less important than other regional sites (McSorley, et al. 2006). Black throated divers only occur in this region during the winter months (approx. Nov–March) and on spring passage (Apr/May) (Joint Nature Conservation Committee 2012).	here is not subject to SPA protection, due to not meeting the required population threshold numbers.	range.		the feature and therefore the rMCZ could contribute to the wider conservation of this feature.
		Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement from vessels	No	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Torbay (FS 22)	Great northern diver <i>Gavia immer</i>	Entanglement and drowning in nets	No	Yes – if this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific gears within the site may be	Great northern divers are known to winter along the south coasts of Devon and Cornwall (Geary and Lock 2000). Torbay is less important than other regional sites. The species is generally present between Oct and May; greatest numbers	Annex I of Birds Directive. No wider protection measures for the feature in place in the site. Population discussed here is not subject to SPA	Not of international importance and unlikely to be of national importance.	Yes – MCZ designation could offer protection, from the threats listed, in an area of importance for this species.	Natural England would advise that this feature is considered for designation within the Torbay rMCZ. Torbay is not likely to qualify as an SPA and

				beneficial.	usually on passage (Joint Nature Conservation Committee 2012).	protection.			MCZ protection would therefore contribute to conservation of this feature, particularly.
		Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement from vessels	No	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Torbay (FS 22)	Harbour porpoise <i>Phocoena phocoena</i>	Entanglement and drowning in nets	Unknown – general threat in SW	If this was known to be an issue affecting harbour porpoise within the site boundary, then measures, statutory or voluntary, could be	Harbour porpoise are known to frequent Torbay – reflected in SeaWatch Foundation data, but relative site fidelity is difficult to determine (Torbay Coast and Countryside Trust unpublished data).	BAP species. Annex 2 species. Wildlife and Countryside Act 1981. ASCOBANS 1992.	Though animals are recorded as present, it is difficult to define the importance of the Torbay rMCZ to the feature specifically.	Yes – spatial protection can be appropriate for the feature in certain circumstances. However, scale is very important due to the probable wide range of the population, and conservation measures for	Natural England would advise that this feature is not considered for designation within the Torbay rMCZ. Site-specific protection is not adequate

				applied within the site to mitigate impacts (e.g. gear restrictions)				this wide-ranging feature should not be restricted to the small extent of this rMCZ.	at this small scale and wider management measures are needed. In principle spatial protection is of benefit to harbour porpoises. However, sites must be of large scale, or measures applied throughout the range of the feature. This rMCZ has supporting evidence of harbour porpoise activity but it is difficult to highlight its importance on a wider scale.
		Disturbance / displacement from vessels	Unknown – high recreational boat activity in site but not known if a threat	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Torbay (FS 22)	Slavonian grebe <i>Podiceps auritus</i>	Entanglement and drowning in nets	No	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific	Grebes are known to winter in the shallow natural harbours and bays along the south-west coast (Geary and Lock 2000). Torbay is less important than other regional sites. This species is generally	Exe Estuary SPA designation. Annex I of Birds Directive. Local population discussed here is not subject to	Not of international importance and unlikely to be of national importance, although the Torbay rMCZ seems to have some local importance for	Yes – MCZ designation would offer protection from threats listed in an area of importance for this species.	Natural England would advise that this feature is considered for designation within the Torbay rMCZ.

				gears within the site may be beneficial.	present Dec–Mar (RSPB survey data 1995 for SSSI extension).	SPA protection.	the feature.		The species is unlikely to meet Stage 1.1, 1.2 or 1.3 SPA selection guidelines because of low numbers / scattered distribution. However, it is also unlikely to meet Stage 1.4 (Stage 2) guidelines as it will fall below the nominal minimum count of 50 individuals
		Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement from vessels	No	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Torbay (FS 22)	Great crested grebe <i>Podiceps cristatus</i>	Entanglement and drowning in nets	No	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific	Grebes are known to winter in the shallow natural harbours and bays along the south-west coast. Torbay is more important than other regional sites (McSorley, et al. 2006).	Exe Estuary SPA designation. Local population discussed here is not subject to SPA protection.	Not of international importance and probably not of national importance, but comparatively important in a regional (Devon) context.	Yes – MCZ designation would offer protection from threats listed in an area of importance for this species.	Natural England would advise that this feature is considered for designation within the Torbay rMCZ. Torbay is not likely to qualify

				gears within the site may be beneficial.					as an SPA, due to population reaching threshold numbers, and so MCZ protection might therefore contribute to the general conservation of this feature.
		Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement from vessels	No	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Torbay (FS 22)	Red-necked grebe <i>Podiceps grisegena</i>	Entanglement and drowning in nets	No	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific	Grebes are known to winter in the shallow natural harbours and bays along the south-west coast. This species is scarce in England but does occur in Torbay in low numbers.	Potential feature of new SPA. However, local population discussed here is not subject to SPA protection.	Scarce nationally, thinly dispersed in small numbers, Torbay is one of several sites holding very low numbers.	Yes – MCZ designation would offer protection from threats listed in an area of importance for this species.	Natural England would advise that this feature is considered for designation within the Torbay rMCZ. As a nationally scarce species

				gears within the site may be beneficial.					
		Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement from vessels	No	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					
Torbay (FS 22)	Guillemot <i>Uria aalge</i>	Entanglement and drowning in nets	No	If this is found to be having an impact upon the species in the site, then byelaws or voluntary agreements to manage specific	Breeding distribution is known (colony counts), but exact foraging areas unknown for this population. Variable winter distribution. Guillemots show high breeding site fidelity (Reid and	Yes – the species is a qualifying feature within English SPAs. Local population discussed here is not subject to SPA	SSSI designation covers birds on land (nesting) but not at sea.	Spatial protection is appropriate for this feature in areas of known foraging importance.	Natural England would advise that this feature is considered for designation within the Torbay rMCZ. SPA colony extensions are

				gears within the site may be beneficial.	Webb 2005).	protection. SSSI designation covers birds on land (nesting) but not at sea.			in place in the UK and this would afford similar protection to SSSI populations. Designation of the population as SSSI feature indicates the (at least) regional or county importance of the population alone or as part of a seabird assemblage. Currently there are only two English SPAs designated for guillemot, both situated in north-east England (Flamborough head and Bempton Cliffs SPA, Farne Islands SPA). Therefore, inclusion as MCZ features could contribute to meeting the ecological
		Displacement due to collision with technical structures (e.g. offshore wind farms)	No	Not known – management of bird impacts from collision is not necessarily restricted to MPAs.					
		Disturbance / displacement from vessels	No	If this threat/impact was known to be an issue in the site, voluntary or statutory measures to reduce disturbance from boats may be of benefit.					
		Reduction of food supply by overfishing	No	n/a					

Table 11 Summary of Natural England's advice regarding whether proposed non-ENG features are suitable for designation

Site Name	Feature	Extension of existing protection?	Feature recommended for consideration	Site Name	Feature	Extension of existing protection	Feature recommended for consideration
Bideford to Foreland Point	Razorbill <i>Alca torda</i>	Y	Yes	The Manacles	Basking shark <i>Cetorhinus maximus</i>	N	No
	Grey seal <i>Halichoerus grypus</i>	N	No		Harbour porpoise <i>Phocoena phocoena</i>	N	No
	Harbour porpoise <i>Phocoena phocoena</i>	N	No	Padstow Bay and Surrounds	Guillemot <i>Uria aalge</i>	Y	Yes
	Guillemot <i>Uria aalge</i>	Y	Yes		Razorbill <i>Alca torda</i>	Y	Yes
Cumbria Coast	Black guillemot <i>Cepphus grylle</i>	Y	Yes		Bottlenose dolphin <i>Tursiops truncatus</i>	N	No
					Puffin <i>Fratercula arctica</i>	Y	Yes
Kingmere	Black bream <i>Spondylus cantharus</i>	N	Yes	Torbay	Kittiwake <i>Rissa tridactyla</i>	N	Yes
Land's End	Balearic shearwater <i>Puffinus mauretanicus</i>	N	Yes		Fulmar <i>Fulmarus glacialis</i>	Y	Yes
	Basking shark <i>Cetorhinus maximus</i>	N	Yes		Black throated diver <i>Gavia arctica</i>	N	Yes
	Bottlenose dolphin <i>Tursiops truncatus</i>	N	No		Great northern diver <i>Gavia immer</i>	N	Yes
Lundy	Harbour porpoise <i>Phocoena phocoena</i>	N	No	Harbour porpoise <i>Phocoena phocoena</i>	N	No	
	Razorbill <i>Alca torda</i>	Y	Yes	Slavonian grebe <i>Podiceps auritus</i>	N	Yes	
	Puffin <i>Fratercula arctica</i>	Y	Yes	Great crested grebe <i>Podiceps cristatus</i>	N	Yes	
	Manx shearwater <i>Puffinus puffinus</i>	Y	Yes	Red-necked grebe <i>Podiceps grisegena</i>	N	Yes	
Lundy	Guillemot <i>Uria aalge</i>	Y	Yes	Guillemot <i>Uria aalge</i>	Y	Yes	

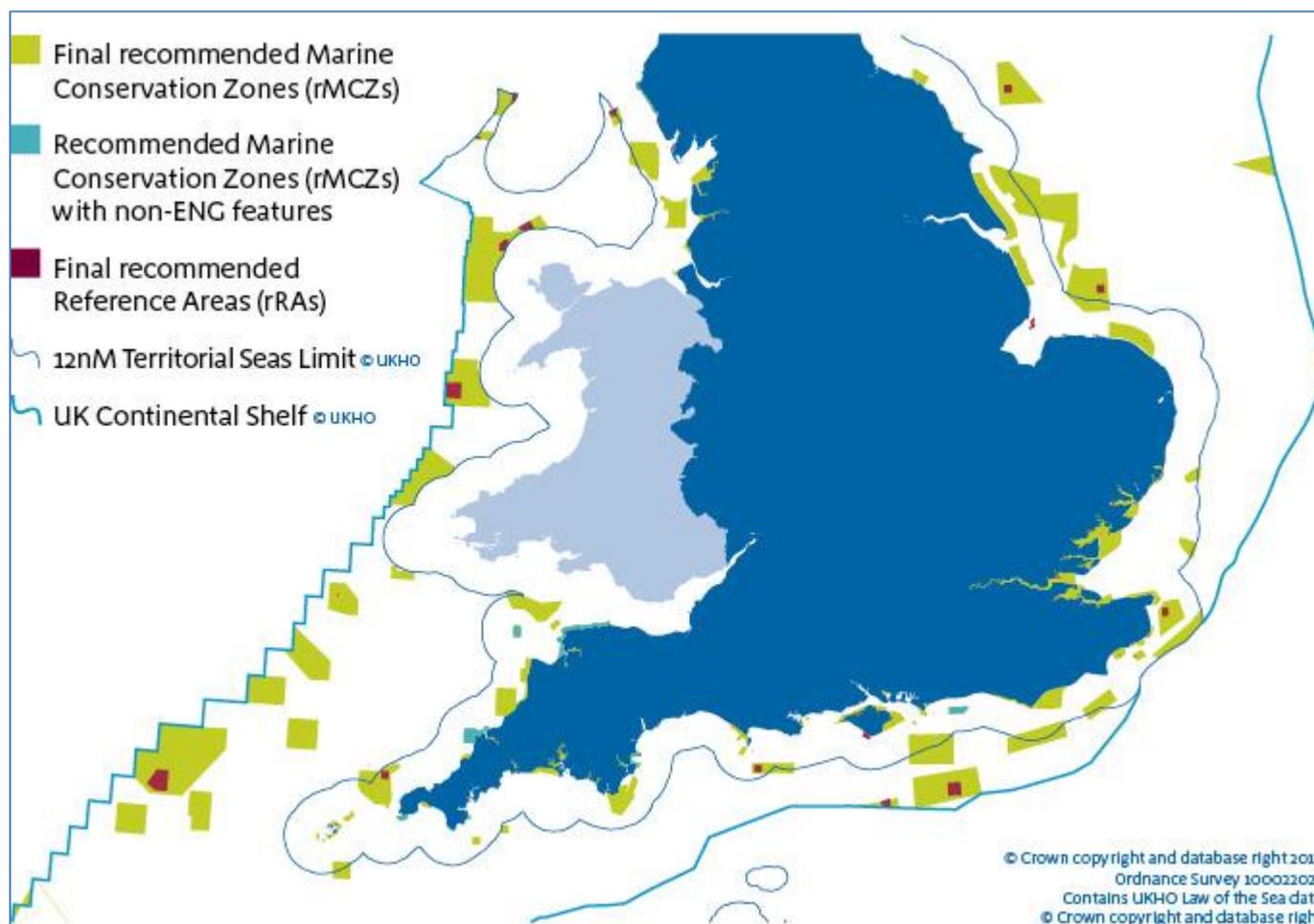


Figure 8 Location of rMCZs with at least one non-ENG feature recommended for designation by the regional stakeholder group (red)

4.4.4. Conclusions

4.4.19. **Table 11** summarises Natural England's advice, based on available evidence, on whether the non-ENG features proposed by the RSGs could benefit from protection as designated features in recommended MCZs. Natural England acknowledges that, for many of the proposals, there is currently little evidence on either the importance of the site to the feature or the site-specific threats that could feasibly be managed through an MCZ designation. Although Natural England requested RSGs to supply any evidence to support designation there was little evidence documented to show that the process outlined in JNCC & Natural England (2011a) was followed by RSGs.

4.4.20. Many of the non-ENG feature proposals were put forward in the final regional MCZ project recommendations stating that, if designated, the condition of the feature should be monitored in relation to particular activities, to assess sensitivity and need for management. In many cases, due to the wide-ranging behaviour of the feature, it is not known whether the effect of only applying conservation measures within the MCZ boundary would cause impacts on the feature through displacement of activities to areas more important to the feature in question. This advice and the site and feature-specific outputs could be subject to change, were more information to become available, such as data on the relative importance of the site to the feature, or evidence that there are site-based impacts to the feature within the site, which could be managed through the MCZ designation.

4.4.21. Many of the non-ENG features proposed are species which are already designated elsewhere under the Habitats or Birds Directives. These features have been proposed for designation in areas where they are not already protected in European marine sites. Defra guidance (Defra 2010b) states that Natura 2000 features would not generally be designated in MCZs, except in exceptional

circumstances or where sites are essential to meet the ecological coherence objectives of the wider MPA network (see **sub-section 4.4.2**). Currently, there is not enough evidence to be able to assess whether there are exceptional circumstances for designation of Natura 2000 features in MCZs. What exceptional circumstances might be is a policy decision for Defra. To date no ecological coherence objectives have been agreed for the MPA network.

4.4.22. [Section 4.1](#) of the MCZ advice notes whether each rMCZ is an area of additional ecological importance. For rMCZs which have this additional ecological value such as, for example, by being a particularly important feeding or breeding area, then this might benefit mobile species. Where this ecological importance is either due to the presence of particular habitats or ecological processes and safeguarding these habitats may do as much for the conservation of species as designating them specifically. Defra's research contract MB0114 will look at the direct and indirect benefits of MCZ designation to mobile species which will further inform Defra's decision making on these features.

4.4.23. The Marine Conservation and Coastal Access Act states in section 123 that MPAs (including MCZs) should create a network that satisfies the following conditions

- a) contributes to the conservation or improvement of the marine environment in the UK marine area;
- b) That the features which are protected by the sites comprised in the network represent the range of features present in the UK marine area;
- c) That the designation of sites comprised in the network reflects the fact that the conservation of a feature may require the designation of more than one site.

4.4.24. **Table 10** notes whether Natural England **advises** that designating the proposed feature might contribute to the conservation of the species which in turn could be considered to contribute to the conservation or improvement of the marine environment. All bird species proposed by the RSGs except the black guillemot *Cephus grylle* are already represented in SPAs and so are already represented in the network and indeed most are proposed for designation in more than one site.

4.4.25. Although advice was given on what information and considerations would be used to assess non-ENG feature proposals, the actual process of proposing non-ENG features for protection in MCZs was left open to the interpretation of the RSGs, and no particular 'targets' were set by JNCC or Natural England. Natural England therefore has reviewed only the results of this exercise; and the proposals have not been considered against any pre-existing network-level principles.

5. Advice on scientific certainty of recommended Marine Conservation Zones

- 5.1. Defra requested JNCC and Natural England provide advice on our scientific confidence in the presence, extent and condition of features in recommended Marine Conservation Zones (rMCZs). This section outlines the two assessment processes we undertook to assess the evidence used by the regional stakeholder groups to propose features for designation and the condition of these features, which determined the conservation objectives they recommended. This section also provides information on the data we used in our assessments and draws attention to the data we were aware of that the regional Marine Conservation Zone projects and JNCC and Natural England did not use to assess confidence.
- 5.2. These sections provide summary results for our assessments. More detailed results are provided in the annexes that are referred to in each section. This will enable our assessments and the data we used to be highly transparent.
- 5.3. [Section 5.1](#) contains our assessments of the evidence for the presence and extent of features proposed for designation in each rMCZ. It provides a judgement on whether we have high, moderate, low or no confidence in the presence and, separately, the extent of features.
- 5.4. [Section 5.2](#) provides a confidence assessment for the condition of the features put forward for protection in the final Marine Conservation Zone recommendations. It describes how condition was determined by the regional stakeholder groups using an analysis of feature vulnerability and how this was used to decide the recommended conservation objectives for features. It provides a judgement on whether we have high, moderate or low confidence in the condition of features.
- 5.5. [Section 5.3](#) lists the data that JNCC and Natural England are aware of, but were not processed or interpreted in time for the assessment (carried out by JNCC and Natural England), of the evidence for the presence and extent of features ([Section 5.1](#)). It describes new survey work commissioned since the end of the regional Marine Conservation Zone projects and how these might improve the evidence base for rMCZs. We also list older data which haven't been used so far due to confidentiality or accessibility issues but could also improve the evidence base if it can be interpreted or be made publicly available.

5.1. Assessment of confidence in the evidence for presence and extent of features

Advice to Defra

JNCC and Natural England assessed the evidence for the presence and extent of features within the recommended Marine Conservation Zones (rMCZs). The analysis of results show that at the level of the Defra marine area, we have greater confidence in feature presence than extent, with 41% (n=499) of assessments being high for presence against 16% (n=189) being high for extent. We gave 245 (20%) features a score of moderate confidence for presence and 289 (24%) moderate confidence for extent. We gave 436 (36%) features low confidence for presence. We gave the majority of features, 680 (56%), low confidence for extent. We gave a score of 'no confidence' for both presence and extent to less than 5% of features.

Whilst ideally we would wish to have high confidence on the presence and extent of proposed features for designation, this is not always possible as the levels of confidence and availability of the evidence underpinning the recommendations is variable. The scale and accuracy of the evidence required to support the decisions at different stages of identification, designation and management are expected to be different as different levels of information will be required.

We **advise** that moderate and low confidence features should not necessarily prevent sites being progressed for designation, particularly if there is confidence on the presence of the feature, and a suitable rMCZ boundary can be delineated around the observed features. JNCC and Natural England **advise** that evidence on the extent of the feature might be more accurately determined after designation to support the development of management measures.

We **advise** that the evidence assessment presented here was based on the best available information at the time of the assessment. We **advise** that the information from datasets referred to in [Section 5.3](#) (such as datasets not used in the current evidence assessment) and any other new information should be incorporated into the assessments of confidence in the presence and extent of features in the future, and that any updates to the assessments should follow the agreed protocols, in order to improve the evidence base underpinning Marine Conservation Zone recommendations and designation.

We **advise** that site selection assessment documents should be updated to incorporate the latest information from the evidence assessment and to reflect the increased knowledge and understanding of the features and site.

We recognise that the confidence on the evidence available will not be assessed in isolation, but considered alongside the conservation value of that feature, the risk of damage or decline if the feature is not designated and any socio-economic consequences of designation. However, any delays in the progression of sites due to lack of knowledge on evidence could increase the risk of serious or irreversible damage to the feature. More information on risk and prioritisation can be found in [Sections 6.1](#) and [6.2](#).

Key messages

Confidence assessments were performed for the presence and extent of 1,205 features within the 127 rMCZs. Assessments of high, moderate, low and no confidence for both the presence and extent of features were carried out in line with technical protocol E.

JNCC and Natural England used all data available during the assessment process to analyse confidence. We list all data used. [Section 5.3](#) contains a list of datasets that were not available to us at the time of the current evidence assessment due to confidentiality or accessibility issues, in addition to new datasets expected later in the year.

Our confidence in the presence and extent of features is wide ranging. A larger proportion of the features receiving high presence and high extent confidence scores are generally intertidal or shallow subtidal species or habitats, in particular around sites designated for other conservation legislation, such as Natura sites. Confidence in the presence and extent of features is significantly greater for the inshore sites than it is for offshore sites, with 54% of inshore assessments for presence being high compared to 31% for offshore sites.

We recognise that the confidence on the evidence available will not be assessed in isolation, but considered alongside the conservation value of that feature, the risk of damage or decline if the feature is not designated and any socio-economic consequences of designation. However, any delays in the progression of sites due to lack of knowledge on evidence could increase the risk of serious or irreversible damage to the feature. More information on risk and prioritisation can be found in [Sections 6.1](#) and [6.2](#).

5.1.1 Aims of this section

- To provide an analysis of the evidence available to assess the confidence on the presence and extent of features proposed for designation in the regional Marine Conservation Zone (MCZ) recommendations.
- To list and provide an assessment of the evidence used, explaining the approach, and provide the results from our assessment. This assessment will fulfil the request from Defra (see [Section 1.2](#)).

5.1.2 Introduction

5.1.1 The regional stakeholder groups and project teams identified and recommended features and sites based on the 'best available evidence' available to the projects, which is one of the seven network design principles in the Ecological Network Guidance (ENG) and Defra Guidance Note 1 (Defra, Guidance on selection and designation of Marine Conservation Zones (Note 1) 2010b, Natural England and the Joint Nature Conservation Committee 2010).

5.1.2 The aim of this section is to present the results of the confidence assessment for the presence and extent of the features within rMCZs completed by JNCC and Natural England. The emphasis is on evaluating the evidence to give a level of confidence to both the presence and to the extent of the features that were recommended by the regional MCZ projects. This information will help to inform Ministers' decisions associated with MCZ designation. Throughout this process, the following questions were considered:

- Is there measurable or verifiable evidence for the presence of the features, including broad-scale habitats (BSHs), Features of Conservation Importance (FOCIs) and geological/geomorphological features of interest, in the site?
- Is there evidence of the spatial extent of features in the site?

5.1.3 This assessment has been undertaken using evidence available to JNCC and Natural England as at 16 March 2012. This included the data provided to JNCC and Natural England by the regional MCZ projects as well as contemporary information held by JNCC and Natural England. This ensured that any additional data that became available during the intervening period was included. The assessment can be rerun in the future using any new datasets that become available⁵¹. A summary of datasets we did not use – in particular those that have been recently collected, those that are

⁵¹ For example, through the Defra commissioned in depth review of evidence (MB0116).

currently being collected, and those that are planned for collection in the very near future – is provided in [Section 5.3](#).

5.1.4 JNCC and Natural England produced a paper on the likely levels of evidence required at the different stages in the MCZ process which was used as guidance throughout the evidence assessment process (Vina-Herbon and Davies 2011). The MCZ advice technical protocol E (Natural England & JNCC 2012e) outlines the methodology that we used to assess the scientific confidence in the presence and extent of features within rMCZs and should be referred to for further information. The information presented below describes the technical aspects of the protocol that we followed.

5.1.3 Methodology

5.1.5 We followed technical protocol E to assess the evidence for both inshore and offshore rMCZs (Natural England & JNCC 2012e). For inshore sites, an additional step was added at the end of the confidence assessments to review the evidence of intertidal sites (The first step of the process was to collate datasets to form the evidence base; these fell into two categories:

- **Data showing presence and extent of features as recommended by regional MCZ projects** These datasets contain the rMCZs and feature boundaries as recommended by the regional MCZ projects. They were based on adapted versions of the national datasets (for example, UKSeaMap) as modified by individual regional MCZ projects. Each of these regional modifications was cross-checked against the original national dataset to ensure that the differences between them were recorded and understood
- **Data showing the evidence supporting the features** These datasets were primarily those identified by the regional MCZ projects as supporting the presence and extent of features. In addition, relevant national datasets held by JNCC and Natural England were also included. A full list of all the datasets used to undertake the confidence assessment for each feature can be found in [Annex 9](#).

5.1.6 The evidence assessment used many datasets held by JNCC and Natural England, most of which were also accessible to regional MCZ projects. All the datasets produced by the MB102 contract were included (ABPmer 2009a). Some of the datasets used by the regional MCZ projects are referenced in the individual regional MCZ project reports, although the lists are not comprehensive. A list of the datasets used is can be found in [Annex 9](#). Together these datasets provide a wide range of information, such as biotope information, the location of species and habitats associated with the recommended features, as well as bathymetry data or sediment types, etc.

5.1.7 The data used encompasses a number of different types of data, including habitat maps derived from predictive models, physical and biological ground-truthing data and habitat maps produced from survey acoustic/remote-sensed and ground-truthed data. A combined habitat map was created using UKSeaMap (McBreen, et al. 2011), outputs and habitat maps from the Mapping European Seabed Habitats project (MESH Project partners 2010), Regional Environment Characterisation (REC) studies (Cefas 2012) and MB0102 intertidal, and their associated confidence assessments (ABPmer 2009a) were used to help assess and interpret the data.

5.1.8 It is essential to understand the type of data that has been used in the evidence assessment, the approach followed on the interpretation and manipulation of the information, and in particular any limitations and caveats associated with the datasets. For example, the UKSeaMap modelled habitat map was designed to be used as a broad, spatial scale. Habitat maps are created using a combination of acoustic and ground-truth information, such as the REC habitat maps. It is important to ensure the actual ground-truth samples that went into creating habitat maps are interrogated in order to carry out an accurate assessment of the evidence.

5.1.9 Some habitats are particularly difficult to assess, in particular habitats of underlying rock covered by a thin veneer of sediment, which could be easily misinterpreted as soft sediment habitats. Also,

some habitats show high temporal variability, such as ross worm *Sabellaria spinulosa* reefs, and assessment of extent can be difficult. See Section 2ii of technical protocol E with the lists of habitats, and more information on the approach to assessing Habitat FOCI (Natural England & JNCC 2012e).

- 5.1.10 To undertake the evidence assessment, all the data from inshore and offshore sites were imported into a Geographical Information System (GIS). This was crucial to allow the visualisation and interrogation of data and to undertake any spatial analysis. The data showing the presence and extent of features as recommended by the regional MCZ projects was overlain onto each dataset within the GIS. We then examined each feature individually to assess confidence in its presence and extent. Not all datasets within the GIS contained the same type of information. For example, there were instances where a feature fell within a part of an interpolated habitat map in which there were no underlying ground truth samples to verify them. In these instances, features were not given a high confidence score, which would have been the case had the underlying data not been scrutinised.
- 5.1.11 Four sites in the Balanced Seas region have non-ENG habitat features proposed for designation which have been defined through the Regional Environmental Characterisation (REC) survey work. Natural England has assessed the confidence of these non-ENG features as proposed by the RSG. ENG features determined through translating the REC derived habitats have only been included for assessment in this section if the Balanced Seas final or amendment report clearly stated they were proposed features. When undertaking the evidence assessments on the Balanced Seas offshore and joint sites covered by REC data, JNCC assessed the confidence of both back-translated broad-scale habitats and REC data to inform the evidence assessments of the broad-scale habitats. Due to the issues with the REC data, in particular, contradictory information between data points, JNCC downgraded the levels of confidence of the BSHs to moderate or low for presence and extent.
- 5.1.12 Technical protocol E determined all confidence assessments for presence and extent (Natural England & JNCC 2012e). However, Natural England subjected intertidal features to a final quality control stage (see **Table 12**). Natural England introduced this stage for intertidal features because there were instances where technical protocol E generated confidence scores for presence and extent that ran counter to what was known locally about the site. The quality assurance stage of the intertidal features was not part of technical protocol E but ensured that as a consequence of poor data we were not making genuine mistakes on feature confidence. For example, despite the paucity of data we are highly confident Scarborough beach is still sandy!
- 5.1.13 In order to prevent bias entering this stage of the assessment, Natural England staff were only able to change the confidence scores if they had empirical data of the feature presence. Data might have included an additional data set that was previously missed from the regional MCZ recommendations or a geo-referenced photograph to corroborate the feature presence. Natural England provided the following guidance to aid the evidence assessment for intertidal sites. Any recommended changes to presence and extent confidence assessments required full and evidenced justification. Those justifications were then quality assured by Natural England’s national evidence team to ensure confidence judgements remained consistent with technical protocol E (Natural England & JNCC 2012e).

Table 12 Information used to aid the assessment of intertidal features

	Presence	Extent
High confidence	A local marine adviser can verify the feature presence and support the feature with locally available data	A local marine adviser can verify with locally available data and can evidence the feature extent.

Moderate confidence	A local marine adviser can evidence the presence of the parent feature (for example, A1) but is unsure if it is high (A1.1), moderate (A1.2) or low energy (A1.3)	A local marine adviser can evidence the presence of the feature but is unsure about the full extent of the feature
Low confidence	A local marine adviser is not able to evidence the presence or absence of the feature or parent feature.	A local marine adviser is unable to evidence the extent because the feature or parent feature cannot be evidenced as present or absent
No confidence	A local marine adviser can evidence that the feature does not exist within the site	A local adviser can evidence that the feature does not exist and therefore has no extent

5.1.14 Confidence assessments for the presence and extent of the features were calculated in line with the criteria outlined in technical protocol E (Natural England & JNCC 2012e), particularly by following Tables 2–6 of that protocol. Results were recorded at the level of feature (for each rMCZ). For every confidence assessment made, an audit trail of decision making was recorded ([Annex 9](#)). There were four possible levels of confidence: no confidence, low confidence, moderate confidence and high confidence. Once available data confirmed a high confidence score and the underlying data confirmed the interpretation of the polygons then the assessment for that feature was considered complete. If they did not agree with the habitat interpretation, then we used the agreement % to give the assessment score. Technical protocol E was followed closely, but additional considerations were included to take account of particular complex datasets or habitats that were difficult to assess at a specific site. In these cases, we took the following approach to assign confidence scores:

- Even without direct petrological or sedimentological information, the confidence score for the presence of large-scale geological and geomorphological features is high. This is because bathymetric (and sometimes seismic) information reveals the shape of geological features (such as glacial erosion and deposition features) and their vertical and lateral extent, and morphology is a key factor in making geological interpretations about how the features were formed. Morphological confidence in features is generally high.
- British Geological Survey (BGS) data was used to validate BSH, although, as stated in the protocol, they were given a ‘moderate confidence’ score only. This was because the data referred to sediment type only and could not validate biological information. In addition, BGS data Particle Size Analysis data was not always used to validate habitats if the nature of the data collection was not considered appropriate for a particular site. For example, BGS data is not suitable for the validation of rocky habitats such as BSH A4.2 (moderate energy circalittoral rock).
- Broad-scale habitat (at European Nature Information System Level 3) rock features are based partly on energy (currents and wave energy) levels. Therefore, data on energy levels in combination with hard substrate data was used to validate the feature.
- Where Marine Recorder data was used to validate broad-scale habitat features, only sample records with biotope-coded information were used. The metadata supplied by the regional MCZ projects as part of the MCZ handover project are presented in [Annex 2](#). Further information about the quality of data was requested but not supplied within the time frame. As a result, some datasets were assigned ‘low confidence’ scores because insufficient metadata was available to allow a higher confidence score. If this metadata becomes available at a later date, the confidence in the information can be reassessed to allow a higher level of confidence to be assigned if appropriate.

5.1.4 Quality control and quality assurance of the confidence assessment

- 5.1.15 JNCC and Natural England placed considerable emphasis on quality controlling their confidence assessments according to the rules of technical protocol E and subsequent editions (see above) to ensure consistency in our approach and quality of outputs. Both organisations liaised closely in setting up the data entry spreadsheets, which has ensured cross-organisational uniformity with respect to interpretation of the protocol.
- 5.1.16 Once confidence levels had been assigned, an internal quality assurance (QA) process was undertaken by relevant specialists to ensure that the data used was appropriate and the process followed was robust. We sent assessments to staff in our specialist and local teams asking for comment and to flag up and provide any missing data. Our staff who acted as MCZ stakeholder representatives on the regional stakeholder groups were required to comment directly on the specific projects they were involved with. All comments were then addressed and the actions added to the Log sheet. To conduct the QA, all staff involved were provided with spreadsheets containing the datasets and outputs of the assessment for each feature and their GIS layers. Feedback and comments relating to confidence in the presence and extent as well as any proposed actions were recorded. An audit trail was created and comments and feedback from the QA process were addressed, incorporated into the final results and then recorded. In some cases, confidence levels were changed as a result of the recommendations made during the QA process.
- 5.1.17 Both organisations built in quality control mechanisms to ensure assessments carried out by interrogation of the geographic information (manual approach) were consistent. Natural England, where possible, ensured these quality control checks were conducted by a regional adviser familiar with the site being assessed.
- 5.1.18 Natural England initiated an automated analysis of the data to aid the analysis and limit the likelihood of user error. Natural England and Marine Mapping Ltd used technical protocol E to generate confidence assessment flow charts. These flow charts can be found in [Annex 8](#). The data was taken from source and, where possible, did not rely on any previous extractions or manipulations of data. This process for the analysis of the data and subsequent confidence generated assessments of the data allowed for errors in data such as incorrect MESH scores in the geographic information data tables and inconsistent user assessments of confidence to be identified. See [Annex 8](#) for detailed information on the automated approach and diagrams of the decision trees. For offshore sites, JNCC opted to undertake the assessment manually using GIS due to issues around the interpretation of polygon data by different providers which could not be assessed using the automated approach.

5.1.5 Overall results

- 5.1.19 In the analysis of all sites combined across all regional MCZ projects, a total of 1,205 features were assessed. We gave 499 (41%) features a high confidence score for presence and we also gave 189 (16%) of these a high confidence score for extent. We gave 245 (20%) features a score of moderate confidence for presence and 289 (24%) moderate confidence for extent. We gave 436 (36%) features low confidence for presence. We gave the majority of features, 681 (56%), low confidence for extent. We gave a score of 'no confidence' for both presence and extent to less than 5% of features. **Table 13** to **Table 17** below provide a summary of the overall results.
- 5.1.20 Confidence assessments were performed for the presence and extent of 1,205 features within the 127 rMCZs. Assessments of high, moderate, low and no confidence for both the presence and the extent of features were carried out in line with technical protocol E (Natural England & JNCC 2012e). Of the total features assessed in this analysis, 82% are within English territorial waters (out to 12 nautical miles).

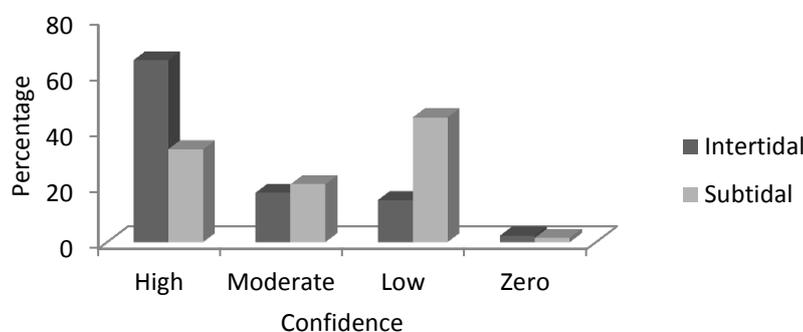
5.1.21 Analysis of the results from this assessment shows that, at a network level, we have greater confidence in feature presence than extent with 41% (n=499) of assessments being high for presence against 16% (n=189) being high for extent.

5.1.22 Confidence in the presence and extent of features is significantly greater for the inshore sites than it is for the offshore sites, with 42% of inshore assessments for presence being high compared to 25% for offshore sites.

5.1.23 Confidence in the presence and extent of features is significantly greater for the inshore sites than it is for the offshore sites, with 42% of inshore assessments for presence being high compared to 25% for offshore sites.

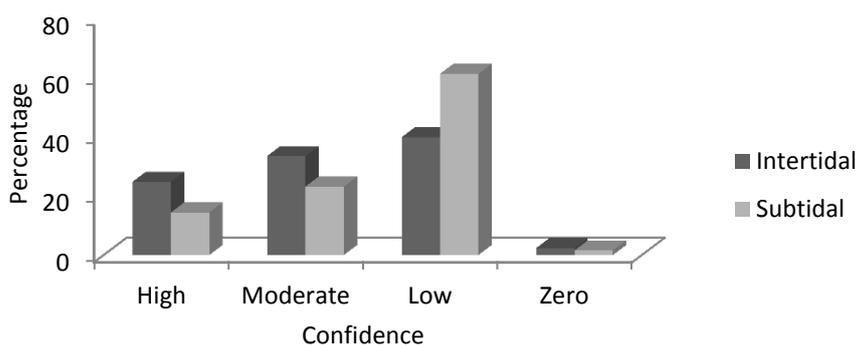
5.1.24 Our confidence in the presence and extent of features is wide-ranging. We have most confidence in the presence and extent of features which are close to the shore line and easily validated by diver survey. A high proportion of the features with high presence and extent confidence scores are generally intertidal or shallow subtidal species or habitats (see **Figure 9**).

Confidence scores assessed for feature presence for intertidal and subtidal features



(a)

Confidence scores assessed for feature extent for intertidal and subtidal features



(b)

Figure 9 Confidence scores for intertidal features compared with subtidal features for (a) presence and (b) extent

Table 13 Percentage (number) of high, moderate, low and no confidence scores for presence and extent by broad-scale habitats

	FEATURE NAME	PRESENCE				EXTENT				
		High	Moderate	Low	No confidence	High	Moderate	Low	No confidence	Total
		BROAD SCALE HABITAT FEATURES	Coastal saltmarshes and saline reedbeds	86.7 (13)	6.7 (1)	6.7 (1)	0 (0)	46.7 (7)	20 (3)	33.3 (5)
Deep-sea bed	100 (3)		0 (0)	0 (0)	0 (0)	100 (3)	0 (0)	0 (0)	0 (0)	3
High energy circalittoral rock	20 (5)		12 (3)	68 (17)	0 (0)	8 (2)	12 (3)	80 (20)	0 (0)	25
High energy infralittoral rock	23.1 (9)		25.6 (10)	51.3 (20)	0 (0)	5.1 (2)	23.1 (9)	71.8 (28)	0 (0)	39
High energy intertidal rock	69.2 (18)		19.2 (5)	11.5 (3)	0 (0)	15.4 (4)	34.6 (9)	50 (13)	0 (0)	26
Intertidal biogenic reefs	100 (4)		0 (0)	0 (0)	0 (0)	0 (0)	100 (4)	0 (0)	0 (0)	4
Intertidal coarse sediment	52.5 (21)		22.5 (9)	22.5 (9)	2.5 (1)	12.5 (5)	25 (10)	60 (24)	2.5 (1)	40
Intertidal mixed sediments	47.6 (10)		28.6 (6)	23.8 (5)	0 (0)	9.5 (2)	33.3 (7)	57.1 (12)	0 (0)	21
Intertidal mud	53.8 (21)		7.7 (3)	25.6 (10)	12.8 (5)	20.5 (8)	20.5 (8)	46.2 (18)	12.8 (5)	39
Intertidal sand and muddy sand	60.6 (20)		30.3 (10)	9.1 (3)	0 (0)	24.2 (8)	15.2 (5)	60.6 (20)	0 (0)	33
Intertidal sediments dominated by aquatic angiosperms	100 (2)		0 (0)	0 (0)	0 (0)	100 (2)	0 (0)	0 (0)	0 (0)	2
Low energy circalittoral rock	33.3 (2)		16.7 (1)	50 (3)	0 (0)	33.3 (2)	0 (0)	66.7 (4)	0 (0)	6
Low energy infralittoral rock	0 (0)		20 (1)	80 (4)	0 (0)	0 (0)	0 (0)	100 (5)	0 (0)	5
Low energy intertidal rock	45 (9)		35 (7)	20 (4)	0 (0)	20 (4)	25 (5)	55 (11)	0 (0)	20
Moderate energy circalittoral rock	11.5 (6)		21.2 (11)	67.3 (35)	0 (0)	5.8 (3)	21.2 (11)	71.2 (37)	1.9 (1)	52
Moderate energy infralittoral rock	16.2 (6)		29.7 (11)	54.1 (20)	0 (0)	5.4 (2)	27 (10)	67.6 (25)	0 (0)	37
Moderate energy intertidal rock	68.6 (24)		20 (7)	8.6 (3)	2.9 (1)	17.1 (6)	25.7 (9)	54.3 (19)	2.9 (1)	35
Subtidal biogenic reefs	0 (0)		33.3 (1)	33.3 (1)	33.3 (1)	0 (0)	33.3 (1)	33.3 (1)	33.3 (1)	3
Subtidal coarse sediment	25.3 (19)		28 (21)	45.3 (34)	1.4 (1)	6.7 (5)	22.6 (17)	69.3 (52)	1.3 (1)	75
Subtidal macrophyte-dominated sediment	100 (6)		0 (0)	0 (0)	0 (0)	83.3 (5)	16.7 (1)	0 (0)	0 (0)	6
Subtidal mixed sediments	31.7 (19)		28.3 (17)	40 (24)	0 (0)	11.7 (7)	31.7 (19)	56.7 (34)	0 (0)	60
Subtidal mud	40 (16)		20 (8)	40 (16)	0 (0)	10 (4)	27.5 (11)	62.5 (25)	0 (0)	40
Subtidal sand	28.9 (26)		31.1 (28)	38.9 (35)	1.1 (1)	10 (9)	28.9 (26)	60 (54)	1.1 (1)	90
BSH Total			38.3 (259)	23.7 (160)	36.5 (247)	1.5 (10)	13.3 (90)	24.8 (168)	60.2 (407)	1.6 (11)

Table 14 Percentage (number) of high, moderate, low and no confidence scores for presence and extent by habitat Features of Conservation Importance (FOCI)

HABITAT FEATURES	FEATURE NAME	PRESENCE				EXTENT				
		High	Moderate	Low	No confidence	High	Moderate	Low	No confidence	Total
		Blue Mussel Beds	44.4 (8)	16.7 (3)	38.9 (7)	0 (0)	11.1 (2)	11.1 (2)	77.8 (14)	0 (0)
Cold-water coral reefs	100 (2)	0 (0)	0 (0)	0 (0)	100 (2)	0 (0)	0 (0)	0 (0)	2	
Estuarine rocky habitats	50 (6)	0 (0)	41.7 (5)	8.3 (1)	0 (0)	33.3 (4)	58.3 (7)	8.3 (1)	12	
Fragile sponge & anthozoan communities on subtidal rocky habitats	37.5 (6)	12.5 (2)	37.5 (6)	12.5 (2)	6.3 (1)	37.5 (6)	43.8 (7)	12.5 (2)	16	
Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	54.5 (6)	18.2 (2)	27.3 (3)	0 (0)	9.1 (1)	36.4 (4)	54.5 (6)	0 (0)	11	
Intertidal under boulder communities	75 (15)	20 (4)	5 (1)	0 (0)	30 (6)	35 (7)	35 (7)	0 (0)	20	
Littoral chalk communities	70 (7)	10 (1)	10 (1)	10 (1)	50 (5)	20 (2)	20 (2)	10 (1)	10	
Maerl beds	75 (3)	0 (0)	25 (1)	0 (0)	0 (0)	25 (1)	75 (3)	0 (0)	4	
Mud habitats in deep water	69.2 (9)	7.7 (1)	23.1 (3)	0 (0)	30.8 (4)	38.5 (5)	30.8 (4)	0 (0)	13	
Native oyster beds (<i>Ostrea edulis</i>)	71.4 (5)	0 (0)	14.3 (1)	14.3 (1)	14.3 (1)	28.6 (2)	42.9 (3)	14.3 (1)	7	
Peat and clay exposures	45 (9)	20 (4)	35 (7)	0 (0)	15 (3)	30 (6)	55 (11)	0 (0)	20	
Ross worm reefs (<i>Sabellaria spinulosa</i>)	15.8 (3)	36.8 (7)	47.4 (9)	0 (0)	10.5 (2)	26.3 (5)	63.2 (12)	0 (0)	19	
Sea pens and burrowing megafauna	71.4 (5)	28.6 (2)	0 (0)	0 (0)	28.6 (2)	14.3 (1)	57.1 (4)	0 (0)	7	
Seagrass beds	85.7 (18)	0 (0)	9.5 (2)	4.8 (1)	57.1 (12)	14.3 (3)	23.8 (5)	4.8 (1)	21	
Sheltered muddy gravels	36.4 (4)	18.2 (2)	45.5 (5)	0 (0)	9.1 (1)	18.2 (2)	72.7 (8)	0 (0)	11	
Subtidal chalk	71.4 (10)	0 (0)	28.6 (4)	0 (0)	14.3 (2)	35.7 (5)	50 (7)	0 (0)	14	
Subtidal sands and gravels	24.4 (11)	17.8 (8)	57.8 (26)	0 (0)	8.9 (4)	15.6 (7)	75.6 (34)	0 (0)	45	
Tide-swept channels	12.5 (1)	0 (0)	87.5 (7)	0 (0)	0 (0)	12.5 (1)	87.5 (7)	0 (0)	8	
Horse mussel (<i>Modiolus modiolus</i>)	0 (0)	0 (0)	50 (1)	50 (1)	0 (0)	0 (0)	50 (1)	50 (1)	2	
HOCI Total	49.2 (128)	13.8 (36)	34.2 (89)	2.7 (7)	18.5 (48)	24.2 (63)	54.6 (142)	2.7 (7)	260	

Table 15 Percentage (number) of high, moderate, low and no confidence scores for presence and extent by species Features of Conservation Importance (FOCI)

	FEATURE NAME	PRESENCE				EXTENT				
		High	Moderate	Low	No confidence	High	Moderate	Low	No confidence	Total
SPECIES FEATURES	Burgundy maerl paint weed	0 (0)	0 (0)	100 (2)	0 (0)	0 (0)	0 (0)	100 (2)	0 (0)	2
	Common maerl (<i>Phymatolithon calcareum</i>)	0 (0)	66.7 (2)	33.3 (1)	0 (0)	0 (0)	66.7 (2)	33.3 (1)	0 (0)	3
	Coral maerl (<i>Lithothamnion corallioides</i>)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	1
	Couch's goby (<i>Gobius couchi</i>)	50 (1)	0 (0)	50 (1)	0 (0)	50 (1)	0 (0)	50 (1)	0 (0)	2
	Defolin's lagoon snail (<i>Caecum armoricum</i>)	0 (0)	66.7 (2)	33.3 (1)	0 (0)	0 (0)	66.7 (2)	33.3 (1)	0 (0)	3
	European eel (<i>Anguilla anguilla</i>)	65 (13)	20 (4)	15 (3)	0 (0)	60 (12)	20 (4)	20 (4)	0 (0)	20
	Fan mussel (<i>Atrina pectinata</i> ³⁷)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Giant goby (<i>Gobius cobitis</i>)	0 (0)	16.7 (1)	83.3 (5)	0 (0)	0 (0)	16.7 (1)	83.3 (5)	0 (0)	6
	Grateloup's little-lobed weed (<i>Grateloupia montagnei</i>)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Lagoon sand shrimp (<i>Gammarus insensibilis</i>)	0 (0)	25 (1)	75 (3)	0 (0)	0 (0)	25 (1)	75 (3)	0 (0)	4
	Lagoon sea slug (<i>Tenellia adpersa</i>)	0 (0)	66.7 (2)	33.3 (1)	0 (0)	0 (0)	66.7 (2)	33.3 (1)	0 (0)	3
	Long snouted seahorse (<i>Hippocampus guttulatus</i>)	0 (0)	0 (0)	100 (4)	0 (0)	0 (0)	0 (0)	100 (4)	0 (0)	4
	Native oyster (<i>Ostrea edulis</i>)	38.1 (8)	19 (4)	38.1 (8)	4.8 (1)	28.6 (6)	9.5 (2)	57.1 (12)	4.8 (1)	21
	Ocean quahog (<i>Arctica islandica</i>)	20 (2)	40 (4)	40 (4)	0 (0)	10 (1)	40 (4)	50 (5)	0 (0)	10
	Peacock's tail (<i>Padina pavonica</i>)	42.9 (3)	14.3 (1)	42.9 (3)	0 (0)	42.9 (3)	0 (0)	57.1 (4)	0 (0)	7
	Pink sea-fan (<i>Eunicella verrucosa</i>)	42.9 (9)	38.1 (8)	19 (4)	0 (0)	19 (4)	57.1 (12)	23.8 (5)	0 (0)	21
	Sea snail (<i>Paludinella littorina</i>)	0 (0)	0 (0)	100 (8)	0 (0)	0 (0)	0 (0)	100 (8)	0 (0)	8
	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	36.4 (4)	18.2 (2)	45.5 (5)	0 (0)	9.1 (1)	45.5 (5)	45.5 (5)	0 (0)	11
	Short snouted seahorse	0 (0)	37.5 (3)	37.5 (3)	25 (2)	0 (0)	37.5 (3)	37.5 (3)	25 (2)	8
	Smelt (<i>Osmerus eperlanus</i>)	83.3 (5)	16.7 (1)	0 (0)	0 (0)	66.7 (4)	16.7 (1)	16.7 (1)	0 (0)	6
	Spiny lobster (<i>Palinurus elephas</i>)	11.8 (2)	41.2 (7)	47.1 (8)	0 (0)	11.8 (2)	29.4 (5)	58.8 (10)	0 (0)	17
	Stalked jellyfish (<i>Haliclystus auricula</i>)	8.3 (1)	8.3 (1)	83.3 (10)	0 (0)	0 (0)	8.3 (1)	91.7 (11)	0 (0)	12
	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	0 (0)	18.2 (2)	81.8 (9)	0 (0)	0 (0)	9.1 (1)	90.9 (10)	0 (0)	11
	Starlet sea anemone (<i>Nematostella vectensis</i>)	33.3 (1)	0 (0)	66.7 (2)	0 (0)	33.3 (1)	0 (0)	66.7 (2)	0 (0)	3
	Sunset cup coral (<i>Leptopsammia pruvoti</i>)	66.7 (4)	0 (0)	33.3 (2)	0 (0)	16.7 (1)	50 (3)	33.3 (2)	0 (0)	6
	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	14.3 (1)	28.6 (2)	57.1 (4)	0 (0)	14.3 (1)	28.6 (2)	57.1 (4)	0 (0)	7
Trembling sea mat (<i>Victorella pavida</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	1	
Undulate ray (<i>Raja undulata</i>)	0 (0)	0 (0)	100 (3)	0 (0)	0 (0)	0 (0)	100 (3)	0 (0)	3	
SOCl Total		27.2 (55)	23.8 (48)	46.5 (94)	2.5 (5)	18.3 (37)	26.2 (53)	53 (107)	2.5 (5)	202

Table 16 Percentage (number) of high, moderate, low and no confidence scores for presence and extent by non-ENG species⁵² and habitat features

	FEATURE NAME	PRESENCE				EXTENT				
		High	Moderate	Low	No confidence	High	Moderate	Low	No confidence	Total
NON-ENG FEATURES	Balearic shearwater (<i>Puffinus mauretanicus</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	1
	Basking shark (<i>Cetorhinus maximus</i>)	100 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	50 (1)	50 (1)	2
	Black guillemot (<i>Cepphus grille</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	1
	Black necked grebe (<i>Podiceps nigricollis</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Black seabream (<i>Spondyliosoma cantharus</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	1
	Black throated diver (<i>Gavia arctica</i>)	100 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (2)	2
	Bottlenose dolphin (<i>Tursiops truncatus</i>)	100 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	50 (1)	50 (1)	2
	Fulmar (<i>Fulmarus glacialis</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Great crested grebe (<i>Podiceps cristatus</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Great northern diver (<i>Gavia immer</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Grey seal (<i>Halichoerus grypus</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	1
	Guillemot (<i>Uria aalge</i>)	100 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	50 (2)	50 (2)	4
	Harbour porpoise (<i>Phocoena phocoena</i>)	100 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	50 (2)	50 (2)	4
	Horned grebe (<i>Podiceps auritus</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Infralittoral muddy sand	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	1
	Infralittoral sandy mud	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	1
	Kittiwake (<i>Rissa tridactyla</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Manx shearwater (<i>Puffinus puffinus</i>)	100 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (2)	2
	Moderate energy circalittoral rock	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Moderate energy infralittoral rock plus thin sandy sediment	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	1
	Puffin (<i>Fratercula arctica</i>)	100 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (2)	2
	Razorbill (<i>Alca torda</i>)	100 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	33.3 (1)	66.7 (2)	3
	Red necked grebe (<i>Podiceps grisegena</i>)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	1
Stalked jellyfish (2 species)	0 (0)	0 (0)	50 (1)	50 (1)	0 (0)	0 (0)	50 (1)	50 (1)	2	
Circalittoral rock and thin mixed sediment	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	1	
Infralittoral rock and thin mixed sediment	25 (1)	0 (0)	75 (3)	0 (0)	0 (0)	0 (0)	100 (4)	0 (0)	4	
Infralittoral rock and thin sandy sediment	66.7 (2)	0 (0)	33.3 (1)	0 (0)	66.7 (2)	0 (0)	33.3 (1)	0 (0)	3	
non-ENG Total		78.3 (36)	2.2 (1)	13 (6)	6.5 (3)	6.5 (3)	6.5 (3)	34.8 (16)	52.2 (24)	46

⁵² These are features that are not listed in section 4.2 of the Ecological Network Guidance (ENG), however many of them are listed in Annex 2 of the ENG (Natural England and the Joint Nature Conservation Committee 2010).

Table 17 Percentage (number) of high, moderate, low and no confidence scores for presence and extent by geological feature

	FEATURE NAME	PRESENCE				EXTENT				
		High	Moderate	Low	No confidence	High	Moderate	Low	No confidence	Total
GEOLOGICAL FEATURES	Bracklesham Bay	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	1
	Celtic sea relict sandbanks	100 (2)	0 (0)	0 (0)	0 (0)	100 (2)	0 (0)	0 (0)	0 (0)	2
	Clacton cliffs and foreshore	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	1
	Drumlins	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	1
	English Channel outburst flood features	100 (4)	0 (0)	0 (0)	0 (0)	100 (4)	0 (0)	0 (0)	0 (0)	4
	Folkestone Warren	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	1
	Gibraltar point (Subtidal)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	1
	Haig Fras rock complex	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	1
	North Norfolk coast (Subtidal)	100 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (4)	0 (0)	4
	Orfordness (Subtidal)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	1
	Portland Deep	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	1
	Spurn Head (Subtidal)	100 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	1
	Swallow Sand	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	1
	Bouldnor Cliff geological feature	100 (1)	0 (0)	0 (0)	0 (0)	100 (1)	0 (0)	0 (0)	0 (0)	1
Geological Total	100 (21)	0 (0)	0 (0)	0 (0)	52.4 (11)	9.5 (2)	38.1 (8)	0 (0)	21	
GRAND TOTAL	41.3 (499)	20.3 (245)	36.3 (436)	2.1 (25)	15.7 (189)	23.9 (289)	56.5 (680)	3.9 (47)	1205	

5.1.6 Detailed feature results

5.1.22 The tables below contain a summary of the results of the evidence assessment, divided into each of the four regional MCZ projects and further separated into inshore and offshore sites. Information is presented to show the confidence in the presence and the extent of each feature. The 'comments' column presents relevant information or additional considerations that were taken into account when assessing the confidence levels. MCZ features without comment meant that technical protocol E was followed without any additional or technical considerations to note. Detailed information on all MCZ feature confidence assessments can be found in [Annex 9](#).

Table 18 Confidence in presence and extent for Balanced Seas offshore and joint recommended Marine Conservation Zones

Note: RA denotes recommended reference area. Grey shading is used on alternate sites and has no additional significance

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
Dolphin Head	A4.1 High energy circalittoral rock	BS RA 10A4.1	Low	Low	
	A4.2 Moderate energy circalittoral rock	BS RA 10A4.2	Low	Low	Modelled data from the REC habitat map from survey covering 100% of the site but no ground-truth data within the site
	A5.4 Subtidal mixed sediments	BS RA 10A5.4	Mod	Low	
	Ross worm <i>Sabellaria spinulosa</i> reefs	BS RA 10HOCI_16	Low	Low	
	Subtidal sands and gravels	BS RA 10HOCI_21	Low	Low	
East Meridian	A5.2 Subtidal sand	BS 29A4D.92	Mod	Low	
	A5.4 Subtidal mixed sediments	BS 29A4D.94	Low	Low	
	English Channel outburst flood features	BS 29 English Channel outburst flood features	High	High	This is an extremely large extensive feature which would require most of the English Channel part of the southern North Sea to be a rMCZ. The areas which are covered by rMCZs (Offshore Overfalls BS 17 and East Meridian BS 29)

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
					may be adequate to be representative of the feature
	Subtidal sands and gravels	BS 29HOCI_21	Low	Low	
	Ross worm <i>Sabellaria spinulosa</i> reefs	BS 29HOCI_16	Low	Low	No sample records within this site; however, a record was present on the north-west boundary line
	Subtidal sands and gravels	BS 29HOCI_21	High	Low	
East Meridian (Eastern Side)	A5.2 Subtidal sand	BS 29.2A4D.92	Low	Low	
	A5.4 Subtidal mixed sediments	BS 29.2A4D.94	Low	Low	
	Subtidal sands and gravels	BS 29.2HOCI_21	Mod	Low	
Kentish Knock East	A5.1 Subtidal coarse sediment	BS 30A5.1	Mod	Low	
	A5.2 Subtidal sand	BS 30A5.2	Mod	Low	
	A5.4 Subtidal mixed sediments	BS 30A5.4	Mod	Low	
Inner Bank	A3.2 Moderate energy infralittoral rock	BS 31A3.2	Low	Low	Modelled data available; however, during stakeholder group meetings BGS commented that they were very sceptical about the presence
	A5.2 Subtidal sand	BS 31A3.92	High	Low	
	A4.2 Moderate energy circalittoral rock	BS 31A4.2	Low	Low	
	A5.1 Subtidal coarse sediment	BS 31A5.1	High	Low	
	Native oyster	BS 31HOCI_14	No	No	One record from 1999;

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	<i>Ostrea edulis</i> beds		confidence	confidence	however, this is a regularly surveyed area and the feature has not been found since this record
	Native oyster <i>Ostrea edulis</i>	BS 31SOCl_22	No confidence	No confidence	One record from 1999; however, this is a regularly surveyed area and the feature has not been found since this record
Offshore Brighton	A4.1 High energy circalittoral rock	BS 14A4.1	Low	Low	
	A4.2 Moderate energy circalittoral rock	BS 14A4.2	Low	Low	Modelled data from the Marine Aggregates Levy Sustainability Fund REC Habitat map from survey covering 100% of the site but no ground-truth data points are within the recommended feature. Also, there are conflicts between extent of FOCl and corresponding BSH
	A5.4 Subtidal mixed sediments	BS 14A5.4	High	Mod	
	Ross worm <i>Sabellaria spinulosa</i> reefs	BS 14HOCl_16	Low	Low	Recommendation based on stakeholder data. No metadata is currently available
	Subtidal sands and gravels	BS 14HOCl_21	Mod	Low	Multiple records support the feature but not the recommended extent
Offshore Overfalls	A5.1 Subtidal coarse sediment	BS 17A5.1	High	Low	REC habitat map from survey covering 100% of the site with seven translated points to A5.1. Four records from Marine Recorder database showing occurrence of BSH. The Marine Recorder records

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
					are not within the suggested feature extent and not well distributed. The Cefas data mining identified 63 records in a concentrated area as A5.1; however, only two records are within the recommended feature. Conflict in extent between FOCI and corresponding BSH
	A5.2 Subtidal sand	BS 17A5.2	High	Mod	REC habitat map from survey covering 100% of the site with translated points to A5.2; however, records from Cefas identified A5.4 and A5.1 within recommended feature. The site is large so the confidence has been scored as moderate. Conflict between extent of FOCI and corresponding BSH
	A5.4 Subtidal mixed sediments	BS 17A5.4	High	Mod	Conflict between extent of FOCI and corresponding BSH
	English Channel outburst flood features	BS 17English Channel outburst flood features	High	High	This is an extremely large extensive feature which would require most of the English Channel part of the southern North Sea to be a rMCZ. The areas which are covered by rMCZs (Offshore Overfalls BS 17 and East Meridian BS 29) may be adequate to be representative of the feature
	Ross worm <i>Sabellaria spinulosa</i>	BS 17HOCl_16	Mod	Mod	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	reefs				
	Subtidal sands and gravels	BS 17HOCl_21	High	Mod	
	Undulate ray <i>Raja undulata</i>	BS 17SOCl_33	Low	Low	
Wight-Barfleur Extension	A5.1 Subtidal coarse sediment	BS 21A5.1	Low	Low	
	A5.4 Subtidal mixed sediments	BS 21A5.4	Low	Low	
	Subtidal sands and gravels	BS 21HOCl_21	Low	Low	
Wight-Barfleur	A4.1 High energy circalittoral rock	BS RA 14A4.1	Low	Low	
	A5.1 Subtidal coarse sediment	BS RA 14A5.1	Low	Low	
	A5.4 Subtidal mixed sediments	BS RA 14A5.4	Low	Low	
	Subtidal sands and gravels	BS RA 14HOCl_21	Low	Low	

Table 19 Confidence in presence and extent for Balanced Seas inshore recommended Marine Conservation Zones

Site name	Feature	Unique ID	Presence Confidence	Extent Confidence	Comments
Abbots Hall Farm	Lagoon sea slug (<i>Tenellia adspersa</i>)	BS RA 23_SOCl_28	Low	Low	
Beachy Head East	Moderate energy infralittoral rock plus thin sandy sediment	BS 13.1_non_EN G_20	High	High	
	Low energy infralittoral rock	BS 13.1_non_EN G_21	Low	Low	
	Moderate energy	BS 13.1_non_EN G_22	Low	Low	

	circalittoral rock				
	Low energy circalittoral rock	BS 13.1_non_EN G_23	Low	Low	
	High energy intertidal rock	BS 13.1_A1.1	Mod	Mod	
	Moderate energy intertidal rock	BS 13.1_A1.2	Mod	Mod	
	Intertidal coarse sediment	BS 13.1_A2.1	Mod	Mod	
	Intertidal mixed sediments	BS 13.1_A2.4	Mod	Mod	
	Blue Mussel Beds	BS 13.1_HOCI_1	Low	Low	
	Littoral chalk communities	BS 13.1_HOCI_1 1	High	High	
	Peat and clay exposures	BS 13.1_HOCI_1 5	Mod	Mod	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS 13.1_HOCI_1 6	Low	Low	
	Subtidal chalk	BS 13.1_HOCI_2 0	Low	Low	
	European eel (<i>Anguilla anguilla</i>)	BS 13.1_SOCI_3 1	Low	Low	
	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	BS 13.1_SOCI_1 6	Low	Low	
	Native oyster (<i>Ostrea edulis</i>)	BS 13.1_SOCI_2 2	Low	Low	
Beachy Head West	Moderate energy intertidal rock	BS 13.2_A1.2	Mod	Mod	
	Intertidal coarse sediment	BS 13.2_A2.1	Mod	Low	Visual confirmation of feature by Natural England local marine

					advisor supported by geo-referenced photos - Intertidal feature presence confidence increased to high.
	Subtidal sand	BS 13.2_A5.2	Low	Low	REC data that contradicts other existing data. Further survey required to clarify presence and extent.
	Subtidal mixed sediments	BS 13.2_A5.4	Low	Low	REC data that contradicts other existing data. Further survey required to clarify presence and extent.
	Subtidal biogenic reefs	BS 13.2_A5.6	Mod	Mod	
	Blue Mussel Beds	BS 13.2_HOCI_1	Mod	Low	
	Littoral chalk communities	BS 13.2_HOCI_1	Low	Low	
	Subtidal chalk	BS 13.2_HOCI_2	High	Low	
	Subtidal mud	BS 13.2_A5.3	Low	Low	Regional Environmental Characterisation survey data contradicts other existing data. Further survey required to clarify presence and extent.
	European eel (<i>Anguilla anguilla</i>)	BS 13.2_SOCI_3	Low	Low	
	Long snouted seahorse (<i>Hippocampus guttulatus</i>)	BS 13.2_SOCI_1	Low	Low	
	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	BS 13.2_SOCI_1	Mod	Mod	
	Native oyster (<i>Ostrea edulis</i>)	BS 13.2_SOCI_2	High	High	
Belle Tout to Beachy Head Lighthouse	Moderate energy intertidal rock	BS RA 09_A1.2	High	High	
	High energy	BS RA	Low	Low	

	infralittoral rock	09_A3.1			
	Moderate energy infralittoral rock	BS RA 09_A3.2	Mod	Mod	
	Moderate energy circalittoral rock	BS RA 09_A4.2	Mod	Mod	
	Littoral chalk communities	BS RA 09_HOCI_11	Mod	Mod	
Bembridge	Subtidal sand	BS 22_A5.2	High	High	
	Subtidal mud	BS 22_A5.3	Low	Low	
	Subtidal mixed sediments	BS 22_A5.4	High	High	
	Maerl beds	BS 22_HOCI_12	High	Low	
	Mud habitats in deep water	BS 22_HOCI_13	Mod	Mod	
	Native oyster beds (<i>Ostrea edulis</i>)	BS 22_HOCI_14	High	Mod	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS 22_HOCI_16	Mod	Mod	
	Seagrass beds	BS 22_HOCI_17	High	Mod	
	Sea pens and burrowing megafauna	BS 22_HOCI_18	Mod	Low	
	Starlet sea anemone (<i>Nematostella vectensis</i>)	BS 22_SOCI_21	Low	Low	
	Lagoon sand shrimp (<i>Gammarus insensibilis</i>)	BS 22_SOCI_9	Low	Low	
	Sea snail (<i>Paludinella littorina</i>)	BS 22_SOCI_25	Low	Low	
	Tentacled	BS	Mod	Mod	

	lagoon-worm (<i>Alkmaria romijni</i>)	22_SOCI_1			
	Stalked jellyfish (<i>Haliclystus auricula</i>)	BS 22_SOCI_14	High	Mod	
	Long snouted seahorse (<i>Hippocampus guttulatus</i>)	BS 22_SOCI_15	Low	Low	
	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	BS 22_SOCI_16	Mod	Mod	
	Native oyster (<i>Ostrea edulis</i>)	BS 22_SOCI_22	High	High	
	Peacock's tail (<i>Padina pavonica</i>)	BS 22_SOCI_23	High	High	
Blackwater, Crouch, Roach and Colne Estuary	High energy intertidal rock	BS 03_A1.1	Low	Low	
	Intertidal mud	BS 03_A2.3	High	High	
	Intertidal mixed sediments	BS 03_A2.4	High	Mod	
	Native oyster beds (<i>Ostrea edulis</i>)	BS 03_HOCI_14	High	Low	
	European eel (<i>Anguilla anguilla</i>)	BS 03_SOCI_31	Mod	Mod	
	Native oyster (<i>Ostrea edulis</i>)	BS 03_SOCI_22	High	Low	
	Lagoon sea slug (<i>Tenellia adspersa</i>)	BS 03_SOCI_28	Mod	Mod	
	Clacton cliffs and foreshore	BS 03_G10	High	High	
Church Norton Spit	Intertidal mud	BS RA 11_A2.3	Low	Low	
	Defolin's lagoon	BS RA	Mod	Mod	

	snail (<i>Caecum armoricum</i>)	11_SOCI_6			
Colne Point	Intertidal sand and muddy sand	BS RA 01_A2.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photos - Intertidal feature presence confidence increased to high.
	Intertidal mud	BS RA 01_A2.3	Mod	Low	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to medium.
	Intertidal mixed sediments	BS RA 01_A2.4	Mod	Mod	
	Subtidal sand	BS RA 01_A5.2	Low	Low	
	Subtidal mud	BS RA 01_A5.3	Low	Low	
	Subtidal mixed sediments	BS RA 01_A5.4	Low	Low	
	Blue Mussel Beds	BS RA 01_HOCI_1	Low	Low	
	Native oyster (<i>Ostrea edulis</i>)	BS RA 01_SOCI_22	Low	Low	
Culver Spit	Maerl beds	BS RA 21_HOCI_12	High	Low	
	Subtidal mixed sediments	BS RA 21_A5.4	Low	Low	Regional Environment Characterisation survey data that contradicts other existing data. Further survey required to clarify presence and extent.
	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	BS RA 21_SOCI_16	No Confidence	No Confidence	
Dover to Deal	Moderate energy intertidal rock	BS 11.1_A1.2	High	Low	
	Intertidal coarse sediment	BS 11.1_A2.1	Low	Low	
	Intertidal mud	BS 11.1_A2.3	High	Low	

	High energy infralittoral rock	BS 11.1_A3.1	Low	Low	
	Moderate energy infralittoral rock	BS 11.1_A3.2	Low	Low	
	Subtidal coarse sediment	BS 11.1_A5.1	Low	Low	
	Subtidal mixed sediments	BS 11.1_A5.4	Low	Low	
	Blue Mussel Beds	BS 11.1_HOCI_1	Mod	Low	
	Intertidal under boulder communities	BS 11.1_HOCI_1 0	High	Low	
	Littoral chalk communities	BS 11.1_HOCI_1 1	High	Low	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS 11.1_HOCI_1 6	Mod	Low	
	Subtidal chalk	BS 11.1_HOCI_2 0	High	Mod	
Dover to Folkestone	Moderate energy intertidal rock	BS 11.2_A1.2	High	Low	
	Intertidal coarse sediment	BS 11.2_A2.1	Low	Low	
	High energy infralittoral rock	BS 11.2_A3.1	Mod	Mod	
	Moderate energy infralittoral rock	BS 11.2_A3.2	Low	Low	
	Subtidal coarse sediment	BS 11.2_A5.1	Low	Low	
	Blue Mussel Beds	BS 11.2_HOCI_1	Mod	Low	
	Intertidal under boulder communities	BS 11.2_HOCI_1 0	High	Mod	

	Littoral chalk communities	BS 11.2_HOCI_11	High	High	
	Peat and clay exposures	BS 11.2_HOCI_15	High	Mod	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS 11.2_HOCI_16	Mod	Low	
	Subtidal chalk	BS 11.2_HOCI_20	High	Low	
	Subtidal sands and gravels	BS 11.2_HOCI_21	Low	Low	
	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	BS 11.2_SOCI_16	Mod	Mod	
	Native oyster (<i>Ostrea edulis</i>)	BS 11.2_SOCI_22	High	High	
	Folkestone Warren	BS 11.2_G2	High	Mod	
Fareham Creek	Native oyster beds (<i>Ostrea edulis</i>)	BS 24.2_HOCI_14	High	Mod	
	Sheltered muddy gravels	BS 24.2_HOCI_19	Low	Low	
	Native oyster (<i>Ostrea edulis</i>)	BS 24.2_SOCI_22	High	Mod	
Flying Fortress	Subtidal coarse sediment	BS RA 25_A5.1	Low	Low	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS RA 25_HOCI_16	Low	Low	
	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	BS RA 25_HOCI_8	Low	Low	
Folkestone Pomerania	Moderate energy circalittoral rock	BS 11.4_A4.2	Low	Low	
	Subtidal coarse	BS 11.4_A5.1	Mod	Mod	

	sediment				
	Subtidal sand	BS 11.4_A5.2	Mod	Mod	
	Blue Mussel Beds	BS 11.4_HOCI_1	Low	Low	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS 11.4_HOCI_16	Mod	Mod	
	Subtidal sands and gravels	BS 11.4_HOCI_21	Low	Low	
	Fragile sponge & anthozoan communities on subtidal rocky habitats	BS 11.4_HOCI_7	Mod	Low	Presence confidence increased to moderate due to photographic evidence from Natural England local marine advisor.
	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	BS 11.4_HOCI_8	Low	Low	
Goodwin Knoll	Subtidal coarse sediment	BS RA 06_A5.1	Low	Low	
	Subtidal sand	BS RA 06_A5.2	Low	Low	
Goodwin Sands	Moderate energy infralittoral rock	BS 08_A3.2	Low	Low	
	Moderate energy circalittoral rock	BS 08_A4.2	Low	Low	
	Subtidal coarse sediment	BS 08_A5.1	Low	Low	
	Subtidal sand	BS 08_A5.2	Low	Low	
	Blue Mussel Beds	BS 08_HOCI_1	Low	Low	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS 08_HOCI_16	Low	Low	
	English Channel outburst flood features	BS 08_G1	High	High	

Harwich Haven	Low energy intertidal rock	BS RA 24_A1.3	Mod	Mod	
	Intertidal coarse sediment	BS RA 24_A2.1	High	Mod	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS RA 24_HOCI_16	High	High	
	Subtidal sands and gravels	BS RA 24_HOCI_21	High	High	
	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	BS RA 24_HOCI_8	High	High	
	Estuarine rocky habitats	BS RA 24_HOCI_5	Low	Low	
Holehaven Creek	Intertidal sand and muddy sand	BS RA 03_A2.2	Mod	Low	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to medium.
	Intertidal mud	BS RA 03_A2.3	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photos - Intertidal feature presence confidence increased to high. Overlaps with SSSI with feature Intertidal mud, condition assessment confirms present.
	Subtidal mud	BS RA 03_A5.3	Low	Low	
	Sheltered muddy gravels	BS RA 03_HOCI_19	Low	Low	
Hythe Bay	Mud habitats in deep water	BS 26_HOCI_13	High	High	
	Sea pens and burrowing megafauna	BS 26_HOCI_18	High	High	
	Subtidal mud	BS 26_A5.3	High	High	
Hythe Flats	Mud habitats in	BS RA 08_HOCI_13	Low	Low	

	deep water				
	Sea pens and burrowing megafauna	BS RA 08_HOCI_18	Mod	Low	
	Subtidal mud	BS RA 08_A5.3	High	High	
Kingmere	Subtidal chalk	BS 16_HOCI_20	High	Mod	
	Native oyster (<i>Ostrea edulis</i>)	BS 16_SOCI_22	Low	Low	
	Black Bream (<i>Spondyllosoma cantharus</i>)	BS 16_non-ENG_1	High	Mod	
King's Quay	Intertidal coarse sediment	BS RA 17_A2.1	Low	Low	
	Intertidal sand and muddy sand	BS RA 17_A2.2	High	High	
	Intertidal mud	BS RA 17_A2.3	High	High	
	Intertidal mixed sediments	BS RA 17_A2.4	Low	Low	
	Subtidal mud	BS RA 17_A5.3	Low	Low	
	Seagrass beds	BS RA 17_HOCI_17	High	High	
Medway Estuary	Low energy intertidal rock	BS 06_A1.3	Low	Low	
	Intertidal sand and muddy sand	BS 06_A2.2	Mod	Mod	
	Intertidal mixed sediments	BS 06_A2.4	Low	Low	
	Subtidal coarse sediment	BS 06_A5.1	Low	Low	
	Subtidal sand	BS 06_A5.2	Mod	Low	
	Subtidal mud	BS 06_A5.3	Mod	Mod	
	Peat and clay exposures	BS 06_HOCI_15	Mod	Low	
	Sheltered muddy gravels	BS 06_HOCI_19	High	Mod	
	Estuarine rocky	BS	Low	Low	

	habitats	06_HOCI_5			
	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	BS 06_SOCI_1	Mod	Mod	
Mixon Hole (North slope)	Peat and clay exposures	BS RA 12_HOCI_15	High	High	
	Subtidal mixed sediments	BS RA 12_A5.4	High	High	
Newtown Harbour	Intertidal mud	BS RA 19_A2.3	High	High	
	Subtidal mixed sediments	BS RA 19_A5.4	Low	Low	
	Estuarine rocky habitats	BS RA 19_HOCI_5	Low	Low	
	Lagoon sand shrimp (<i>Gammarus insensibilis</i>)	BS RA 19_SOCI_9	Low	Low	
Norris to Ryde	Subtidal mud	BS 19_A5.3	High	Mod	
	Seagrass beds	BS 19_HOCI_17	High	High	
	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	BS 19_SOCI_1	Low	Low	
North Mistley	Intertidal mud	BS RA 22_A2.3	High	Mod	
	Blue Mussel Beds	BS RA 22_HOCI_1	Low	Low	
	Native oyster (<i>Ostrea edulis</i>)	BS RA 22_SOCI_22	Low	Low	
	Starlet sea anemone (<i>Nematostella vectensis</i>)	BS RA 22_SOCI_21	Low	Low	
North Utopia	Subtidal mixed sediments	BS RA 13_A5.4	High	High	
	Subtidal sands and gravels	BS RA 13_HOCI_21	Low	Low	

	Fragile sponge & anthozoan communities on subtidal rocky habitats	BS RA 13_HOCI_7	Low	Low	
Offshore Foreland	High energy infralittoral rock	BS 09_A3.1	Low	Low	
	High energy circalittoral rock	BS 09_A4.1	Low	Low	
	Moderate energy circalittoral rock	BS 09_A4.2	Low	Low	
	Subtidal coarse sediment	BS 09_A5.1	Low	Low	
	Subtidal sand	BS 09_A5.2	Low	Low	
	English Channel outburst flood features	BS 09_G1	High	High	
Offshore Overfalls	Undulate ray (<i>Raja undulata</i>)	BS 17_SOCI_33	Low	Low	
	English Channel outburst flood features	BS 17_G1	High	High	
Pagham Harbour	Seagrass beds	BS 25.1_HOCI_17	High	High	
	European eel (<i>Anguilla anguilla</i>)	BS 25.1_SOCI_31	Mod	Low	
	Defolin's lagoon snail (<i>Caecum armoricum</i>)	BS 25.1_SOCI_6	Mod	Mod	
	Lagoon sand shrimp (<i>Gammarus insensibilis</i>)	BS 25.1_SOCI_9	Mod	Mod	
Selsey Bill and the Hounds	High energy infralittoral rock	BS 25.2_A3.1	Low	Low	
	Subtidal mixed sediments	BS 25.2_A5.4	High	High	

	Peat and clay exposures	BS 25.2_HOCI_15	High	High	
	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	BS 25.2_SOCI_16	No Confidence	No Confidence	
	Subtidal sand	BS 25.2_A5.2	Low	Low	Regional Environment Characterisation Survey data contradicts other existing data. Further survey required to clarify presence and extent.
	Bracklesham Bay	BS 25.2_G4	High	Low	
South Foreland Lighthouse	High energy intertidal rock	BS RA 07_A1.1	Low	Low	
	Moderate energy intertidal rock	BS RA 07_A1.2	Low	Low	
	High energy infralittoral rock	BS RA 07_A3.1	Low	Low	
	Subtidal mixed sediments	BS RA 07_A5.4	Low	Low	
	Intertidal under boulder communities	BS RA 07_HOCI_10	High	Low	
	Littoral chalk communities	BS RA 07_HOCI_11	High	High	
	Subtidal chalk	BS RA 07_HOCI_20	High	High	
South Mersea	Native oyster beds (<i>Ostrea edulis</i>)	BS RA 02_HOCI_14	Low	Low	
	Native oyster (<i>Ostrea edulis</i>)	BS RA 02_SOCI_22	Low	Low	
St Catherine's Point West	High energy infralittoral rock	BS RA 18_A3.1	Low	Low	
	Moderate energy infralittoral rock	BS RA 18_A3.2	Mod	Low	
	Low energy	BS RA	Low	Low	

	infralittoral rock	18_A3.3			
	High energy circalittoral rock	BS RA 18_A4.1	Mod	Mod	
	Moderate energy circalittoral rock	BS RA 18_A4.2	Low	Low	
	Subtidal sands and gravels	BS RA 18_HOCI_21	Low	Low	
	Subtidal mixed sediments	BS RA 18_A5.4	Low	Low	
Stalked Jellyfish (within Alum Bay)	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	BS RA 20_SOCI_20	Low	Low	
Stour and Orwell Estuaries	Low energy intertidal rock	BS 02_A1.3	Low	Low	
	Intertidal mixed sediments	BS 02_A2.4	Low	Low	
	Subtidal coarse sediment	BS 02_A5.1	Mod	Mod	
	Blue Mussel Beds	BS 02_HOCI_1	Low	Low	
	Native oyster beds (<i>Ostrea edulis</i>)	BS 02_HOCI_14	High	Low	
	Peat and clay exposures	BS 02_HOCI_15	Low	Low	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS 02_HOCI_16	Low	Low	
	Sheltered muddy gravels	BS 02_HOCI_19	High	Low	
	Subtidal sands and gravels	BS 02_HOCI_21	High	Mod	
	Estuarine rocky habitats	BS 02_HOCI_5	Low	Low	
	Honeycomb worm reefs (<i>Sabellaria</i>)	BS 02_HOCI_8	Mod	Low	

	<i>alveolata</i>)				
Thames Estuary	Intertidal sand and muddy sand	BS 05_A2.2	High	High	
	Intertidal mixed sediments	BS 05_A2.4	High	Mod	
	Subtidal coarse sediment	BS 05_A5.1	Mod	Low	
	Subtidal sand	BS 05_A5.2	Mod	Mod	
	Subtidal mud	BS 05_A5.3	Mod	Mod	
	Sheltered muddy gravels	BS 05_HOCI_19	High	Mod	
	European eel (<i>Anguilla anguilla</i>)	BS 05_SOCI_31	High	High	
	Smelt (<i>Osmerus eperlanus</i>)	BS 05_SOCI_32	High	High	
	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	BS 05_SOCI_1	High	High	
	Thanet Coast	Moderate energy infralittoral rock	BS 07_A3.2	Mod	Mod
Moderate energy circalittoral rock		BS 07_A4.2	Mod	Mod	
Subtidal coarse sediment		BS 07_A5.1	High	High	
Subtidal sand		BS 07_A5.2	High	High	
Subtidal mixed sediments		BS 07_A5.4	High	Mod	
Blue Mussel Beds		BS 07_HOCI_1	High	Mod	
Peat and clay exposures		BS 07_HOCI_15	Low	Low	
Ross worm reefs (<i>Sabellaria</i>		BS 07_HOCI_16	High	Mod	

	<i>spinulosa</i>)				
	Subtidal chalk	BS 07_HOCI_20	High	High	
	Subtidal sands and gravels	BS 07_HOCI_21	High	High	
	Stalked jellyfish (<i>Lucernariopsis cruxmelitensis</i>)	BS 07_SOCI_19	Mod	Low	
	Stalked jellyfish (<i>Haliclystus auricula</i>)	BS 07_SOCI_14	Low	Low	
	Common maerl (<i>Phymatolithon calcareum</i>)	BS 07_SOCI_26	Mod	Mod	
The Needles	Subtidal mixed sediments	BS 20_A5.4	Mod	Mod	
	Seagrass beds	BS 20_HOCI_17	High	High	
	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	BS 20_SOCI_20	Low	Low	
	Peacock's tail (<i>Padina pavonica</i>)	BS 20_SOCI_23	High	High	
The Swale Estuary	Low energy intertidal rock	BS 10_A1.3	High	High	
	Low energy infralittoral rock	BS 10_A3.3	Low	Low	
	Subtidal sand	BS 10_A5.2	High	Mod	
	Subtidal mud	BS 10_A5.3	Mod	Low	
	Subtidal mixed sediments	BS 10_A5.4	Mod	Mod	
	Blue Mussel Beds	BS 10_HOCI_1	Low	Low	
	Peat and clay exposures	BS 10_HOCI_15	Mod	Mod	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS 10_HOCI_16	Mod	Low	

	Sheltered muddy gravels	BS 10_HOCI_19	High	High	
	Subtidal sands and gravels	BS 10_HOCI_21	Low	Low	
	European eel (<i>Anguilla anguilla</i>)	BS 10_SOCI_31	Mod	Mod	
	Native oyster (<i>Ostrea edulis</i>)	BS 10_SOCI_22	Mod	Low	
Turner Contemporary	Moderate energy intertidal rock	BS RA 05_A1.2	High	Mod	
	Intertidal sand and muddy sand	BS RA 05_A2.2	Mod	Low	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to medium.
	Intertidal mud	BS RA 05_A2.3	Low	Low	
	Moderate energy infralittoral rock	BS RA 05_A3.2	Mod	Mod	
	Moderate energy circalittoral rock	BS RA 05_A4.2	Mod	Mod	
	Subtidal sand	BS RA 05_A5.2	Mod	Mod	
	Subtidal mixed sediments	BS RA 05_A5.4	Mod	Mod	
	Littoral chalk communities	BS RA 05_HOCI_11	High	High	
	Subtidal chalk	BS RA 05_HOCI_20	High	Mod	
	Subtidal sands and gravels	BS RA 05_HOCI_21	Low	Low	
	Stalked jellyfish (<i>Lucernariopsis cruxmelitensis</i>)	BS RA 05_SOCI_19	Low	Low	
	Tyne Ledges	Seagrass beds	BS RA 15_HOCI_17	High	Mod
Subtidal sand		BS RA 15_A5.2	Low	Low	
Peacock's tail		BS RA	High	High	

	<i>(Padina pavonica)</i>	15_SOCI_23			
Utopia	Fragile sponge & anthozoan communities on subtidal rocky habitats	BS 28_HOCI_7	High	Mod	
Westgate Promontory	Moderate energy intertidal rock	BS RA 04_A1.2	High	High	
	Intertidal mud	BS RA 04_A2.3	Low	Low	
	Moderate energy infralittoral rock	BS RA 04_A3.2	Mod	Mod	
	Subtidal sand	BS RA 04_A5.2	Mod	Mod	
	Littoral chalk communities	BS RA 04_HOCI_11	High	High	
	Subtidal sands and gravels	BS RA 04_HOCI_21	Low	Low	
	Stalked jellyfish (<i>Haliclystus auricula</i>)	BS RA 04_SOCI_14	Low	Low	
Wootton Old Mill Pond	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	BS RA 16_SOCI_1	Low	Low	
Yarmouth to Cowes	Low energy intertidal rock	BS 23_A1.3	High	High	
	Intertidal coarse sediment	BS 23_A2.1	High	High	
	Moderate energy infralittoral rock	BS 23_A3.2	High	Mod	
	Subtidal coarse sediment	BS 23_A5.1	High	High	
	Intertidal under boulder communities	BS 23_HOCI_10	High	High	
	Native oyster	BS	High	High	

	beds (<i>Ostrea edulis</i>)	23_HOCI_14			
	Peat and clay exposures	BS 23_HOCI_15	High	High	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	BS 23_HOCI_16	Mod	Mod	
	Seagrass beds	BS 23_HOCI_17	High	High	
	Estuarine rocky habitats	BS 23_HOCI_5	Low	Low	
	Lagoon sand shrimp (<i>Gammarus insensibilis</i>)	BS 23_SOCI_9	Low	Low	
	Native oyster (<i>Ostrea edulis</i>)	BS 23_SOCI_22	High	High	

Table 20 Confidence in presence and extent for Finding Sanctuary offshore and joint recommended Marine Conservation Zones

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
Cape Bank	A4.2 Moderate energy circalittoral rock	FS 36A4.2	Low	Low	
	A5.1 Subtidal coarse sediment	FS 36A5.1	High	Mod	
	Spiny Lobster <i>Palinurus elephas</i>	FS 36SOCI_24	Mod	Low	
Cape Bank RA	A3.1 High energy infralittoral rock	FS RA 12A3.1	High	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura Special Area of Conservation (SAC) identification process
	A3.2 Moderate energy infralittoral rock	FS RA 12A3.2	High	High	
	A4.1 High energy circalittoral rock	FS RA 12A4.1	High	High	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	A4.2 Moderate energy circalittoral rock	FS RA 12A4.2	High	High	There are no records in our spatial datasets of these species within the boundaries of this site, but a recent Natural England SAC survey (Natural England 2010c) confirmed the presence of both species on Cape Bank
	A5.1 Subtidal coarse sediment	FS RA 12A5.1	High	High	
	Spiney Lobster <i>Palinurus elephas</i>	FS RA 12SOCI_24	Mod	Low	
	Pink Sea-fan <i>Eunicella verrucosa</i>	FS RA 12SOCI_8	Mod	Low	
Celtic Deep	A5.3 Subtidal mud	FS 10A5.3	High	Mod	
	Mud habitats in deep water	FS 10HOCI_13	High	Mod	
Celtic Deep RA	A5.3 Subtidal mud	FS RA 03A5.3	High	Mod	
	Mud habitats in deep water	FS RA 03HOCI_13	High	Mod	
East of Celtic Deep	A5.1 Subtidal coarse sediment	FS 11A5.1	Low	Low	
	A5.2 Subtidal sand	FS 11A5.2	Mod	Low	
	A5.3 Subtidal mud	FS 11A5.3	Low	Low	
East of Haig Fras	A4.2 Moderate energy circalittoral rock	FS 07A4.2	Low	Low	
	A5.1 Subtidal coarse sediment	FS 07A5.1	Mod	Low	
	A5.2 Subtidal sand	FS 07A5.2	Mod	Low	
East of Jones Bank	A4.2 Moderate energy circalittoral rock	FS 06A4.2	Low	Low	
	A5.2 Subtidal sand	FS 06A5.2	Low	Low	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	A5.3 Subtidal mud	FS 06A5.3	Low	Low	
Greater Haig Fras	A4.2 Moderate energy circalittoral rock	FS 05A4.2	High	High	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Haig Fras. Part of the data acquisition for the MCZ process may identify new areas outside the current SAC boundary that may be Annex 1 reef. These will be investigated and will be considered for inclusion within the Haig Fras SAC
	A5.1 Subtidal coarse sediment	FS 05A5.1	Mod	Low	
	A5.2 Subtidal sand	FS 05A5.2	Mod	Low	
	A5.3 Subtidal mud	FS 05A5.3	Mod	Low	
	A5.4 Subtidal mixed sediments	FS 05A5.4	Mod	Low	
	Haig Fras rock complex	FS 05Haig Fras rock complex	High	High	Presence of the feature is supported by the Natura 2000 site identification work and the location of the Haig Fras SAC
	Fragile sponge and anthozoan communities on subtidal rocky habitats	FS 05HOCI_7	Low	Low	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
Greater Haig Fras RA	A4.2 Moderate energy circalittoral rock	FS RA 02A4.2	High	High	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Haig Fras. Part of the data acquisition for the MCZ process may identify new areas outside the current SAC boundary that may be Annex 1 reef. These will be investigated and will be considered for inclusion within the Haig Fras SAC
	A5.1 Subtidal coarse sediment	FS RA 02A5.1	Mod	Low	Presence of the parent feature (soft sediment) is supported by the Natura 2000 site identification work, where a survey point and survey quality multibeam and back scatter have indicated soft sediment
	A5.2 Subtidal sand	FS RA 02A5.2	Mod	Low	
	A5.3 Subtidal mud	FS RA 02A5.3	Mod	Low	
	A5.4 Subtidal mixed sediments	FS RA 02A5.4	Mod	Low	
North-East of Haig Fras	A5.1 Subtidal coarse sediment	FS 08A5.1	Low	Low	
	A5.2 Subtidal sand	FS 08A5.2	Mod	Low	
	A5.3 Subtidal mud	FS 08A5.3	Mod	Low	
	A5.4 Subtidal mixed sediments	FS 08A5.4	Low	Low	
North-West of Jones Bank	A5.1 Subtidal coarse sediment	FS 04A5.1	Low	Low	
	A5.2 Subtidal sand	FS 04A5.2	Low	Low	
	A5.3 Subtidal mud	FS 04A5.3	Low	Low	
South Dorset	A4.1 High energy circalittoral rock	FS 16A4.1	Low	Low	
	A4.2 Moderate energy circalittoral rock	FS 16A4.2	Low	Low	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	A5.1 Subtidal coarse sediment	FS 16A5.1	Low	Low	
	A5.4 Subtidal mixed sediments	FS 16A5.4	Low	Low	
	Subtidal chalk	FS 16HOCI_20	High	Mod	Finding Sanctuary only had point data and did not mark the extent of the feature
	A4.1 High energy circalittoral rock	FS RA 04A4.1	Low	Low	
	A4.2 Moderate energy circalittoral rock	FS RA 04A4.2	Low	Low	
	A5.4 Subtidal mixed sediments	FS RA 04A5.4	Low	Low	
	Subtidal chalk	FS RA 04HOCI_20	High	Mod	Finding Sanctuary only had point data and did not mark the extent of the feature; however, we have high confidence in the presence due to the ground-truthing data available
South of Celtic Deep	A5.1 Subtidal coarse sediment	FS 09A5.1	Mod	Low	
	A5.2 Subtidal sand	FS 09A5.2	Mod	Low	
	A5.3 Subtidal mud	FS 09A5.3	Low	Low	
	A5.4 Subtidal mixed sediments	FS 09A5.4	Mod	Low	Sample data covers less than 50% of the feature and there is a limited number of points
South of the Isles of Scilly	A5.1 Subtidal coarse sediment	FS 13A5.1	Low	Low	
	A5.2 Subtidal sand	FS 13A5.2	Low	Low	
South-East of	A5.1 Subtidal coarse sediment	FS 30A5.1	Low	Low	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
Falmouth	A5.2 Subtidal sand	FS 30A5.2	Low	Low	
South-West Deeps (East)	A5.1 Subtidal coarse sediment	FS 03A5.1	Low	Low	
	A5.2 Subtidal sand	FS 03A5.2	Mod	Low	
	A6 Deep-sea bed	FS 03A6	High	High	BSH A6 is defined by the bathymetry contour which in this case is well defined by the Astrium bathymetry layer that covers 100% of the feature
	Celtic sea relict sandbanks	FS 03Celtic sea relict sandbanks	High	High	The rMCZ overlaps several examples of this feature and is contained in the South-West Deeps (West and East) sites
South-West Deeps (West)	A5.1 Subtidal coarse sediment	FS 02A5.1	Mod	Low	
	A5.2 Subtidal sand	FS 02A5.2	Mod	Mod	
	A5.4 Subtidal mixed sediments	FS 02A5.4	Mod	Low	
	Celtic sea relict sandbanks	FS 02Celtic sea relict sandbanks	High	High	The rMCZ overlaps several examples of this feature and is contained in the South-West Deeps (West and East) sites
The Canyons	A5.1 Subtidal coarse sediment	FS 01A5.1	Low	Low	
	A5.2 Subtidal sand	FS 01A5.2	Low	Low	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	A6 Deep-sea bed	FS 01A6	High	High	The MESH South-West approaches canyons habitat map is based on survey data, including acoustic and biological ground-truthing, Polygons for the deep-sea bed BSH contain biological validation samples. The A6 extent is defined by the bathymetry which is well defined
	Cold-water coral reefs	FS 01HOCI_2	High	High	The MESH South-West approaches canyons habitat map is based on survey data, including acoustic and biological ground-truthing, Polygons for cold-water coral reefs contain biological validation samples
The Canyons RA	A6 Deep-sea bed	FS RA 01A6	High	High	The MESH South-West approaches canyons habitat map is based on survey data, including acoustic and biological ground-truthing, Polygons for cold-water coral reefs contain biological validation samples
	Cold-water coral reefs	FS RA 01HOCI_2	High	High	The MESH South-West approaches canyons habitat map is based on survey data, including acoustic and biological ground-truthing
Western Channel	A4.2 Moderate energy circalittoral rock	FS 12A4.2	Low	Low	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	A5.1 Subtidal coarse sediment	FS 12A5.1	Mod	Low	
	A5.4 Subtidal mixed sediments	FS 12A5.4	Mod	Low	

Table 21 Confidence in presence and extent for Finding Sanctuary inshore recommended Marine Conservation Zones

Site name	Feature	Unique ID	Presence Confidence	Extent Confidence	Comments
Axe Estuary	Intertidal coarse sediment	FS 20_A2.1	Mod	Low	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to medium.
	Intertidal mud	FS 20_A2.3	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Intertidal mixed sediments	FS 20_A2.4	Low	Low	
	Coastal saltmarshes and saline reedbeds	FS 20_A2.5	High	Mod	
	Subtidal mixed sediments	FS 20_A5.4	Low	Low	
	European eel (<i>Anguilla anguilla</i>)	FS 20_SOCI_31	Low	Low	
Bideford to Foreland Point	High energy intertidal rock	FS 43_A1.1	High	Low	Visual confirmation of feature by Natural England local marine advisor including geo-referenced photos - H
	Moderate energy intertidal rock	FS 43_A1.2	High	Low	Visual confirmation of feature by Natural England local marine advisor including geo-referenced photos - H

	Low energy intertidal rock	FS 43_A1.3	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos -M
	Intertidal coarse sediment	FS 43_A2.1	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M
	Intertidal sand and muddy sand	FS 43_A2.2	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M
	Intertidal mud	FS 43_A2.3	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M
	Intertidal mixed sediments	FS 43_A2.4	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M
	High energy infralittoral rock	FS 43_A3.1	Low	Low	
	Moderate energy infralittoral rock	FS 43_A3.2	Low	Low	
	High energy circalittoral rock	FS 43_A4.1	Low	Low	
	Subtidal coarse sediment	FS 43_A5.1	Low	Low	
	Subtidal sand	FS 43_A5.2	Low	Low	
	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	FS 43_HOCI_8	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 43_SOCI_8	Mod	Mod	
	Sea snail	FS 43_SOCI_25	Low	Low	

	<i>(Paludinella littorina)</i>				
	Razorbill (<i>Alca torda</i>)	FS 43_non-ENG_13	High	Low	
	Grey seal (<i>Halichoerus grypus</i>)	FS 43_non-ENG_16	High	Mod	
	Harbour porpoise (<i>Phocoena phocoena</i>)	FS 43_non-ENG_4	High	No Confidence	
	Guillemot (<i>Uria aalge</i>)	FS 43_non-ENG_9	High	Low	
Broad Bench to Kimmeridge Bay	Moderate energy intertidal rock	FS 17_A1.2	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor but uncertain of exposure level so moderate presence.
	Intertidal coarse sediment	FS 17_A2.1	High	High	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Peacock's tail (<i>Padina pavonica</i>)	FS 17_SOCI_23	Mod	Low	
	Sea snail (<i>Paludinella littorina</i>)	FS 17_SOCI_25	Low	Low	
Camel Estuary	Low energy intertidal rock	FS 39_A1.3	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Intertidal coarse sediment	FS 39_A2.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-

					referenced photos - H
	Intertidal mud	FS 39_A2.3	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Coastal saltmarshes and saline reedbeds	FS 39_A2.5	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Estuarine rocky habitats	FS 39_HOCI_5	High	Low	
	European eel (<i>Anguilla anguilla</i>)	FS 39_SOCI_31	High	High	
Chesil Beach and Stennis Ledges	High energy intertidal rock	FS 19_A1.1	High	High	
	Intertidal coarse sediment	FS 19_A2.1	Low	Low	
	High energy infralittoral rock	FS 19_A3.1	Low	Low	
	Subtidal coarse sediment	FS 19_A5.1	High	Low	
	Subtidal sand	FS 19_A5.2	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 19_SOCI_8	Mod	Mod	
	Native oyster (<i>Ostrea edulis</i>)	FS 19_SOCI_22	Mod	Low	
Dart Estuary	Low energy intertidal rock	FS 23_A1.3	Mod	Mod	
	Intertidal mud	FS 23_A2.3	High	High	
	Coastal saltmarshes and saline	FS 23_A2.5	High	Low	

	reedbeds				
	Subtidal mud	FS 23_A5.3	Mod	Mod	
	Intertidal under boulder communities	FS 23_HOCI_10	Mod	Low	
	Estuarine rocky habitats	FS 23_HOCI_5	High	Mod	
	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	FS 23_SOCI_1	Low	Low	
	European eel (<i>Anguilla anguilla</i>)	FS 23_SOCI_31	High	High	
Devon Avon Estuary	Moderate energy intertidal rock	FS 25_A1.2	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor.
	Intertidal coarse sediment	FS 25_A2.1	Low	Low	
	Intertidal sand and muddy sand	FS 25_A2.2	Mod	Low	
	Intertidal mud	FS 25_A2.3	Mod	Mod	
	Coastal saltmarshes and saline reedbeds	FS 25_A2.5	High	High	
	High energy infralittoral rock	FS 25_A3.1	Mod	Low	
	Subtidal sand	FS 25_A5.2	Mod	Mod	
	Subtidal mud	FS 25_A5.3	High	Mod	
	European eel (<i>Anguilla anguilla</i>)	FS 25_SOCI_31	High	High	
	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	FS 25_SOCI_1	Low	Low	

Erme Estuary	High energy intertidal rock	FS 26_A1.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Moderate energy intertidal rock	FS 26_A1.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Low energy intertidal rock	FS 26_A1.3	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photo - M
	Intertidal coarse sediment	FS 26_A2.1	High	High	
	Intertidal mixed sediments	FS 26_A2.4	High	High	
	High energy infralittoral rock	FS 26_A3.1	High	Mod	
	Moderate energy infralittoral rock	FS 26_A3.2	Mod	Low	
	Low energy infralittoral rock	FS 26_A3.3	Low	Low	
	Subtidal sand	FS 26_A5.2	Mod	Mod	
	Subtidal mud	FS 26_A5.3	High	Low	
	Intertidal mud	FS RA 08_A2.3	High	High	
	Intertidal mixed sediments	FS RA 08_A2.4	High	High	
	Coastal saltmarshes and saline reedbeds	FS RA 08_A2.5	High	High	
	Low energy infralittoral rock	FS RA 08_A3.3	Mod	Low	
	Subtidal mud	FS RA 08_A5.3	High	Low	
	Sheltered	FS 26_HOCI_19	Low	Low	

	muddy gravels				
	Sheltered muddy gravels	FS RA 08_HOCI_19	Low	Low	
	Estuarine rocky habitats	FS 26_HOCI_5	High	Low	
	European eel (<i>Anguilla anguilla</i>)	FS 26_SOCI_31	High	High	
Hartland Point to Tintagel	High energy intertidal rock	FS 40_A1.1	High	Low	Visual confirmation of feature by Natural England local marine advisor including geo-referenced photos - H
	Moderate energy intertidal rock	FS 40_A1.2	High	Low	Visual confirmation of feature by Natural England local marine advisor including geo-referenced photos - H
	Intertidal coarse sediment	FS 40_A2.1	High	Low	Visual confirmation of feature by Natural England local marine advisor including geo-referenced photos - H
	Intertidal sand and muddy sand	FS 40_A2.2	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M
	Intertidal mud	FS 40_A2.3	Low	Low	
	Intertidal mixed sediments	FS 40_A2.4	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M
	Coastal saltmarshes and saline reedbeds	FS 40_A2.5	Mod	Low	
	High energy infralittoral rock	FS 40_A3.1	Low	Low	
	Subtidal coarse sediment	FS 40_A5.1	Low	Low	
	Subtidal sand	FS 40_A5.2	Low	Low	
	Fragile sponge	FS 40_HOCI_7	Low	Low	

	& anthozoan communities on subtidal rocky habitats				
	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	FS 40_HOCI_8	High	Low	Visual confirmation of feature by Natural England local marine advisor including geo-referenced photos - H
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 40_SOC1_8	Mod	Mod	
	Peacock's tail (<i>Padina pavonica</i>)	FS 40_SOC1_23	Low	Low	
Isles of Scilly: Bishop to Crim	High energy infralittoral rock	FS 35c_A3.1	Low	Low	
	Moderate energy infralittoral rock	FS 35c_A3.2	Low	Low	
	High energy circalittoral rock	FS 35c_A4.1	Low	Low	
	Moderate energy circalittoral rock	FS 35c_A4.2	Low	Low	
	Subtidal coarse sediment	FS 35c_A5.1	High	Mod	
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35c_HOCI_7	Low	Low	
	Spiny lobster (<i>Palinurus elephas</i>)	FS 35c_SOC1_24	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35c_SOC1_8	Mod	Mod	
	Isles of Scilly: Bristows to the Stones	Moderate energy infralittoral rock	FS 35d_A3.2	Low	Low

	Moderate energy circalittoral rock	FS 35d_A4.2	Low	Low	
	Subtidal coarse sediment	FS 35d_A5.1	Low	Low	
	Subtidal mixed sediments	FS 35d_A5.4	Low	Low	
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35d_HOCI_7	Low	Low	
	High energy infralittoral rock	FS 35d_A3.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by photographic evidence supplied by Tim Allsop (Chair of IoS Wildlife Trust / St Martin's Diving Services). Subtidal feature presence confidence increased to high. H
	High energy circalittoral rock	FS 35d_A4.1	Low	Low	
	Spiny lobster (<i>Palinurus elephas</i>)	FS 35d_SOCI_24	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35d_SOCI_8	Low	Low	
Isles of Scilly: Gilstone to Gorregan	High energy infralittoral rock	FS 35e_A3.1	Low	Low	
	Moderate energy infralittoral rock	FS 35e_A3.2	Low	Low	
	Moderate energy circalittoral rock	FS 35e_A4.2	Mod	Mod	
	Subtidal coarse sediment	FS 35e_A5.1	High	Mod	
	Tide-swept	FS	Low	Low	

	channels	35e_HOCI_22			
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35e_HOCI_7	Mod	Mod	
	High energy intertidal rock	FS 35e_A1.1	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor supported by aerial photos only – M
	High energy circalittoral rock	FS 35e_A4.1	Low	Low	
	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 35e_SOCI_2	Low	Low	
	Moderate energy intertidal rock	FS 35e_A1.2	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35e_SOCI_8	High	Mod	
	Giant goby (<i>Gobius cobitis</i>)	FS 35e_SOCI_11	Low	Low	
	Stalked jellyfish (<i>Haliclystus auricula</i>)	FS 35e_SOCI_14	Low	Low	
	Spiny lobster (<i>Palinurus elephas</i>)	FS 35e_SOCI_24	Low	Low	
	Sea snail (<i>Paludinella littorina</i>)	FS 35e_SOCI_25	Low	Low	
Isles of Scilly: Hanjague to Deep Ledge	High energy intertidal rock	FS 35f_A1.1	Mod	Low	Visual confirmation of feature by Natural England local marine advisor supported by aerial photos - M
	Intertidal coarse sediment	FS 35f_A2.1	Mod	Low	
	Moderate energy	FS 35f_A3.2	Low	Low	

	infralittoral rock				
	Low energy infralittoral rock	FS 35f_A3.3	Low	Low	
	Moderate energy circalittoral rock	FS 35f_A4.2	Low	Low	
	Low energy circalittoral rock	FS 35f_A4.3	Low	Low	
	Subtidal sand	FS 35f_A5.2	High	Mod	
	Subtidal mixed sediments	FS 35f_A5.4	High	Mod	
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35f_HOCI_7	High	Mod	
	Moderate energy intertidal rock	FS 35f_A1.2	Mod	Low	Visual confirmation of feature by Natural England local marine advisor supported by aerial photos only – M
	High energy infralittoral rock	FS 35f_A3.1	High	Mod	
	High energy circalittoral rock	FS 35f_A4.1	High	Mod	
	Intertidal under boulder communities	FS 35f_HOCI_10	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor supported by aerial photos only – M
	Sunset cup coral (<i>Leptopsammia pruvoti</i>)	FS 35f_SOCI_17	Low	Low	
	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 35f_SOCI_2	High	Mod	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35f_SOCI_8	High	Mod	
	Spiny lobster	FS	Mod	Mod	

	<i>(Palinurus elephas)</i>	35f_SOCI_24			
Isles of Scilly: Higher Town	Low energy intertidal rock	FS 35g_A1.3	Low	Low	
	Intertidal coarse sediment	FS 35g_A2.1	High	Low	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Intertidal sand and muddy sand	FS 35g_A2.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by aerial photos - H
	Intertidal mud	FS 35g_A2.3	No Confidence	No Confidence	Visual confirmation of feature absence by Natural England local marine advisor (Finding Sanctuary) - Intertidal feature presence confidence reduced to no confidence. L
	High energy infralittoral rock	FS 35g_A3.1	Mod	Low	Visual confirmation of feature by Natural England local marine advisor supported by Scilly historic data from Marine recorder – see Seascope Report Figure 2 - M
	Moderate energy infralittoral rock	FS 35g_A3.2	Low	Low	
	Subtidal sand	FS 35g_A5.2	High	Mod	
	Subtidal mixed sediments	FS 35g_A5.4	High	Mod	
	Subtidal macrophyte-dominated sediment	FS 35g_A5.5	High	High	
	Intertidal under boulder communities	FS 35g_HOCI_10	High	High	Visual confirmation of feature by Natural England local marine advisor supported by NE data & IoS WT shoresearch data - H
	Peat and clay	FS 35g_HOCI_15	High	Mod	Visual confirmation of feature by Natural

	exposures				England local marine advisor supported by Shore search data (IoS WT) - H
	Seagrass beds	FS 35g_HOCI_17	High	High	Visual confirmation of feature by Natural England local marine advisor supported by Kevan Cook data - H
	Tide-swept channels	FS 35g_HOCI_22	Low	Low	
	Moderate energy intertidal rock	FS 35g_A1.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by NE data & IoS WT shoresearch data - H
	Stalked jellyfish (<i>Haliclystus auricula</i>)	FS 35g_SOCI_14	Mod	Low	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.
	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	FS 35g_SOCI_20	Low	Low	
Isles of Scilly: Lower Ridge to Innisvouls	High energy infralittoral rock	FS 35h_A3.1	Low	Low	
	Moderate energy infralittoral rock	FS 35h_A3.2	Low	Low	
	Moderate energy circalittoral rock	FS 35h_A4.2	Low	Low	
	Subtidal sand	FS 35h_A5.2	High	Mod	
	Subtidal mixed sediments	FS 35h_A5.4	High	Mod	
	Subtidal macrophyte-dominated sediment	FS 35h_A5.5	High	High	
	Seagrass beds	FS 35h_HOCI_17	No Confidence	No Confidence	Visual confirmation of feature absence by Natural England local marine advisor - Intertidal feature

					presence confidence reduced to no confidence. L
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35h_HOCI_7	High	Mod	
	Moderate energy intertidal rock	FS 35h_A1.2	Mod	Low	Visual confirmation of feature by Natural England local marine advisor supported only by aerial photos - M
	High energy circalittoral rock	FS 35h_A4.1	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor supported by Scilly historic data from Marine recorder – see Seascope Report Figure 2 - M
	Tide-swept channels	FS 35h_HOCI_22	Low	Low	
	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 35h_SOCI_2	High	Mod	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35h_SOCI_8	High	Mod	
	Sunset cup coral (<i>Leptopsammia pruvoti</i>)	FS 35h_SOCI_17	High	Mod	
	Spiny lobster (<i>Palinurus elephas</i>)	FS 35h_SOCI_24	Low	Low	
Isles of Scilly: Men a Vaur to White Island	High energy intertidal rock	FS 35i_A1.1	High	High	Visual confirmation of feature by Natural England local marine advisor supported by IoS Wildlife Trust Biotope Mapping Data (Data held by ERCCIS & supplied to Finding Sanctuary) - Intertidal feature presence confidence increased to high.

	Intertidal coarse sediment	FS 35i_A2.1	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Intertidal sand and muddy sand	FS 35i_A2.2	High	High	Visual confirmation of feature by Natural England local marine advisor supported by IoS Wildlife Trust Biotope Mapping Data (Data held by ERCCIS & supplied to Finding Sanctuary) - Intertidal feature presence confidence increased to high. H
	Intertidal mud	FS 35i_A2.3	No Confidence	No Confidence	Visual confirmation of feature absence by Natural England local marine advisor - Intertidal feature presence confidence reduced to no confidence.
	High energy infralittoral rock	FS 35i_A3.1	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by photographic evidence supplied by Tim Allsop (Chair of IoS Wildlife Trust / St Martin's Diving Services). Subtidal feature presence confidence confirmed as high.
	Moderate energy infralittoral rock	FS 35i_A3.2	Low	Low	
	Moderate energy circalittoral rock	FS 35i_A4.2	Mod	Mod	
	Subtidal sand	FS 35i_A5.2	High	High	
	Intertidal under boulder communities	FS 35i_HOCI_10	High	High	Visual confirmation of feature by Natural England local marine advisor supported by IoS Wildlife Trust Biotope Mapping Data (Data held by ERCCIS

					& supplied to Finding Sanctuary) - H
	Seagrass beds	FS 35i_HOCI_17	High	High	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Jackson et al (2011) - Intertidal feature presence confidence increased to high. H
	Tide-swept channels	FS 35i_HOCI_22	Low	Low	
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35i_HOCI_7	Low	Low	
	Moderate energy intertidal rock	FS 35i_A1.2	High	High	Visual confirmation of feature by Natural England local marine advisor supported by IoS Wildlife Trust Biotope Mapping Data (Data held by ERCCIS & supplied to Finding Sanctuary) - Intertidal feature presence confidence increased to high. H
	High energy circalittoral rock	FS 35i_A4.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by photographic evidence supplied by Tim Allsop (Chair of IoS Wildlife Trust / St Martin's Diving Services). Subtidal feature presence confidence confirmed as high.
	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 35i_SOCI_2	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35i_SOCI_8	Mod	Mod	
	Stalked jellyfish (<i>Haliclystus</i>)	FS 35i_SOCI_14	Low	Low	

	<i>auricula</i>)				
	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	FS 35i_SOC1_20	Low	Low	
	Spiny lobster (<i>Palinurus elephas</i>)	FS 35i_SOC1_24	Low	Low	
Isles of Scilly: Peninnis to Dry Ledge	Moderate energy intertidal rock	FS 35j_A1.2	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by NE Intertidal survey & Biotope Mapping - H
	Intertidal coarse sediment	FS 35j_A2.1	High	Mod	
	Intertidal sand and muddy sand	FS 35j_A2.2	High	High	
	Intertidal mud	FS 35j_A2.3	No Confidence	No Confidence	Visual confirmation of feature absence by Natural England local marine advisor - Intertidal feature presence confidence reduced to no confidence.
	Intertidal mixed sediments	FS 35j_A2.4	High	Mod	
	High energy infralittoral rock	FS 35j_A3.1	Low	Low	
	Moderate energy infralittoral rock	FS 35j_A3.2	Low	Low	
	Moderate energy circalittoral rock	FS 35j_A4.2	Low	Low	
	Subtidal coarse sediment	FS 35j_A5.1	High	Mod	
	Subtidal sand	FS 35j_A5.2	High	Mod	
	Subtidal mixed sediments	FS 35j_A5.4	High	Mod	
	Intertidal under boulder	FS 35j_HOCI_10	High	High	Visual confirmation of feature by Natural

	communities				England local marine advisor supported by NE Intertidal survey & Biotope Mapping - H
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35j_HOCI_7	High	Mod	
	Low energy intertidal rock	FS 35j_A1.3	High	High	
	High energy circalittoral rock	FS 35j_A4.1	High	High	
	Defoliated lagoon snail (<i>Caecum armoricum</i>)	FS 35j_SOCI_6	Low	Low	
	Ocean quahog (<i>Arctica islandica</i>)	FS 35j_SOCI_3	Low	Low	
	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 35j_SOCI_2	Mod	Mod	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35j_SOCI_8	High	Mod	
	Giant goby (<i>Gobius cobitis</i>)	FS 35j_SOCI_11	Low	Low	
	Stalked jellyfish (<i>Haliclystus auricula</i>)	FS 35j_SOCI_14	Low	Low	
	Sunset cup coral (<i>Leptopsammia pruvoti</i>)	FS 35j_SOCI_17	High	Mod	
	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	FS 35j_SOCI_20	Low	Low	
	Spiny lobster (<i>Palinurus elephas</i>)	FS 35j_SOCI_24	Mod	Mod	

	Sea snail (<i>Paludinella littorina</i>)	FS 35j_SOCI_25	Low	Low	
Isles of Scilly: Plympton to Spanish Ledge	High energy intertidal rock	FS 35k_A1.1	High	High	
	Moderate energy intertidal rock	FS 35k_A1.2	High	High	Visual confirmation of feature by Natural England local marine advisor supported by Biotope Mapping (IoS WT) & Aerial photos - H
	Intertidal sand and muddy sand	FS 35k_A2.2	High	High	
	High energy infralittoral rock	FS 35k_A3.1	High	Mod	Although a subtidal feature, the presence confidence is increased to high as feature confirmed by Natural England local advisor with first-hand knowledge of diving within site. Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Moderate energy infralittoral rock	FS 35k_A3.2	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor supported by Scilly historic data from Marine recorder – see Seascope Report Figure 2 - M
	Moderate energy circalittoral rock	FS 35k_A4.2	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by photographic evidence supplied by Tim Allsop (Chair of IoS Wildlife Trust / St Martin's Diving Services). Subtidal feature presence confidence increased to high. H
	Subtidal sand	FS 35k_A5.2	High	Mod	
	Intertidal under	FS	High	High	Visual confirmation of

	boulder communities	35k_HOCI_10			feature by Natural England local marine advisor supported by evidence from Biotope Mapping (IoS WT) & Aerial photos (South West Coastal Monitoring Programme) - Intertidal feature presence confidence increased to high. H
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35k_HOCI_7	High	Mod	
	High energy circalittoral rock	FS 35k_A4.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by photographic evidence supplied by Tim Allsop (Chair of IoS Wildlife Trust / St Martin's Diving Services). Subtidal feature presence confidence increased to high. H
	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 35k_SOCI_2	High	Mod	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35k_SOCI_8	High	Mod	
	Sunset cup coral (<i>Leptopsammia pruvoti</i>)	FS 35k_SOCI_17	High	Mod	
	Spiny lobster (<i>Palinurus elephas</i>)	FS 35k_SOCI_24	Mod	Mod	
Isles of Scilly: Smith Sound Tide Swept Channel	High energy intertidal rock	FS 35I_A1.1	High	Mod	
	High energy infralittoral rock	FS 35I_A3.1	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor supported by

					Scilly historic data from Marine recorder – see Seascope Report Figure 2 - M
Moderate energy infralittoral rock	FS 35I_A3.2	High	Mod		Visual confirmation of feature by Natural England local marine advisor supported by photographic evidence supplied by Tim Allsop (Chair of IoS Wildlife Trust / St Martin's Diving Services). Subtidal feature presence confidence increased to high. H
Subtidal sand	FS 35I_A5.2	High	Mod		
Tide-swept channels	FS 35I_HOCI_22	High	Mod		
Moderate energy intertidal rock	FS 35I_A1.2	High	Mod		Visual confirmation of feature by Natural England local marine advisor supported by Biotope Mapping (IoS WT) - H
Moderate energy circalittoral rock	FS 35I_A4.2	High	Low		Visual confirmation of feature by Natural England local marine advisor supported by photographic evidence supplied by Tim Allsop (Chair of IoS Wildlife Trust / St Martin's Diving Services). Subtidal feature presence confidence increased to high. H
Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 35I_SOC1_2	Low	Low		
Spiny lobster (<i>Palinurus elephas</i>)	FS 35I_SOC1_24	Low	Low		
Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35I_SOC1_8	Low	Low		
Burgundy maerl paint weed (<i>Cruoria</i>	FS 35I_SOC1_7	Low	Low		

	<i>cruoriaeformis)</i>				
	Giant goby (<i>Gobius cobitis</i>)	FS 35I_SOCI_11	Low	Low	
	Stalked jellyfish (<i>Lucernariopsis cruxmelitensis</i>)	FS 35I_SOCI_19	Mod	Mod	
Isles of Scilly: Tean	High energy intertidal rock	FS 35m_A1.1	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor supported by aerial photos only - M
	Intertidal coarse sediment	FS 35m_A2.1	High	Mod	
	Intertidal sand and muddy sand	FS 35m_A2.2	Mod	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) -M
	Intertidal mud	FS 35m_A2.3	No Confidence	No Confidence	Visual confirmation of feature absence by Natural England local marine advisor - Intertidal feature presence confidence reduced to no confidence. L
	High energy infralittoral rock	FS 35m_A3.1	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor supported by Scilly historic data from Marine recorder – see Seascope Report Figure 2 - M
	Moderate energy infralittoral rock	FS 35m_A3.2	Mod	Mod	
	Subtidal sand	FS 35m_A5.2	High	Mod	
	Subtidal mixed sediments	FS 35m_A5.4	High	Mod	
	Subtidal macrophyte-dominated sediment	FS 35m_A5.5	High	High	

	Seagrass beds	FS 35m_HOCI_17	High	High	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Jackson et al (2011) - Intertidal feature presence confidence increased to high. H
	Tide-swept channels	FS 35m_HOCI_22	Low	Low	
	Moderate energy intertidal rock	FS 35m_A1.2	High	High	Visual confirmation of feature by Natural England local marine advisor supported by AG photos - H
	Intertidal under boulder communities	FS 35m_HOCI_10	High	High	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high and Local Group dataset 53 (comprising of AONB / PML / Local Photographic / Video); Extent confirmed.
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35m_HOCI_7	No Confidence	No Confidence	
	Stalked jellyfish (2 species)	FS 35m_SOCI_14 or SOCI_19 or SOCI_20	Low	Low	
Land's End	High energy intertidal rock	FS 34_A1.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H
	Intertidal coarse sediment	FS 34_A2.1	Low	Low	
	Intertidal sand and muddy sand	FS 34_A2.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images

					and NE site visit for groundtruthing with geo-referenced photos - H
	Intertidal mud	FS 34_A2.3	Low	Low	
	High energy infralittoral rock	FS 34_A3.1	Low	Low	
	Moderate energy infralittoral rock	FS 34_A3.2	Low	Low	
	High energy circalittoral rock	FS 34_A4.1	Low	Low	
	Moderate energy circalittoral rock	FS 34_A4.2	Low	Low	
	Subtidal coarse sediment	FS 34_A5.1	Low	Low	
	Subtidal sand	FS 34_A5.2	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 34_SOCI_8	Mod	Mod	
	Sea snail (<i>Paludinella littorina</i>)	FS 34_SOCI_25	Low	Low	
	Basking shark (<i>Cetorhinus maximus</i>)	FS 34_non-ENG_10	High	Low	
	Harbour porpoise (<i>Phocoena phocoena</i>)	FS 34_non-ENG_4	High	Low	
	Balearic shearwater (<i>Puffinus mauretanicus</i>)	FS 34_non-ENG_19	High	Low	
	Bottlenose dolphin (<i>Tursiops truncatus</i>)	FS 34_non-ENG_11	High	No Confidence	
Lundy	Mud habitats in	FS 41_HOCI_13	High	High	

	deep water				
	Spiny lobster (<i>Palinurus elephas</i>)	FS 41_SOCI_24	High	High	
	Razorbill (<i>Alca torda</i>)	FS 41_non-ENG_13	High	No Confidence	
	Puffin (<i>Fratercula arctica</i>)	FS 41_non-ENG_14	High	No Confidence	
	Manx shearwater (<i>Puffinus puffinus</i>)	FS 41_non-ENG_15	High	No Confidence	
	Guillemot (<i>Uria aalge</i>)	FS 41_non-ENG_9	High	No Confidence	
	Manx shearwater (<i>Puffinus puffinus</i>)	FS 41_non-ENG_15	High	No Confidence	
Lundy RA	Moderate energy infralittoral rock	FS RA 13_A3.2	High	Mod	
	Moderate energy circalittoral rock	FS RA 13_A4.2	Mod	Mod	Multiple validation samples of species associated with this habitat type over a large area of the reference area
	Subtidal coarse sediment	FS RA 13_A5.1	High	Mod	
	Subtidal sand	FS RA 13_A5.2	High	High	
	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS RA 13_SOCI_2	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS RA 13_SOCI_8	High	High	
	Sunset cup coral (<i>Leptopsammia</i>)	FS RA 13_SOCI_17	High	High	

	<i>pruvoti</i>				
	Spiny lobster (<i>Palinurus elephas</i>)	FS RA 13_SOCI_24	High	High	
	Common maerl (<i>Phymatolithon calcareum</i>)	FS RA 13_SOCI_26	Low	Low	
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS RA 13_HOCI_7	High	High	
	Mud habitats in deep water	FS RA 13_HOCI_13	Low	Low	Highly surveyed area with records of Mud habitat >30 years old. Other species and habitat found in this area are also not compatible with this habitat. Likely habitat is muddy sand, a habitat favoured by <i>Artica islandica</i> which is also found in the site.
Lyme Bay	Intertidal coarse sediment	FS RA 07_A2.1	Low	Low	
	High energy infralittoral rock	FS RA 07_A3.1	Mod	Mod	
	Subtidal mixed sediments	FS RA 07_A5.4	Low	Low	
	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	FS RA 07_HOCI_8	High	Mod	
	Stalked jellyfish (<i>Haliclystus auricula</i>)	FS RA 07_SOCI_14	Low	Low	
	Peacock's tail (<i>Padina pavonica</i>)	FS RA 07_SOCI_23	Low	Low	
Morte Platform	High energy circalittoral rock	FS 44_A4.1	Low	Low	

	Moderate energy circalittoral rock	FS 44_A4.2	Low	Low	
	Subtidal coarse sediment	FS 44_A5.1	Low	Low	
Mounts Bay	High energy intertidal rock	FS 33_A1.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H
	Moderate energy intertidal rock	FS 33_A1.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H
	Intertidal coarse sediment	FS 33_A2.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H
	Intertidal sand and muddy sand	FS 33_A2.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H
	Intertidal mixed sediments	FS 33_A2.4	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H
	High energy infralittoral rock	FS 33_A3.1	Low	Low	

	Subtidal sand	FS 33_A5.2	Low	Low	
	Subtidal mixed sediments	FS 33_A5.4	Low	Low	
	Seagrass beds	FS 33_HOCI_17	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H
	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	FS 33_SOCI_20	Low	Low	
	Ocean quahog (<i>Arctica islandica</i>)	FS 33_SOCI_3	Low	Low	
	Giant goby (<i>Gobius cobitis</i>)	FS 33_SOCI_11	Mod	Mod	
	Stalked jellyfish (<i>Haliclystus auricula</i>)	FS 33_SOCI_14	Low	Low	
	Stalked jellyfish (<i>Lucernariopsis cruxmelitensis</i>)	FS 33_SOCI_19	Low	Low	
Mouth of the Yealm	High energy intertidal rock	FS RA 09_A1.1	High	Mod	
	Moderate energy intertidal rock	FS RA 09_A1.2	High	Mod	
	Intertidal coarse sediment	FS RA 09_A2.1	High	Mod	
	Seagrass beds	FS RA 09_HOCI_17	Low	Low	
	Estuarine rocky habitats	FS RA 09_HOCI_5	High	Mod	
Newquay and The Gannel Gannel	High energy intertidal rock	FS 37_A1.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring

					Programme) and geo-referenced photos - H
	Moderate energy intertidal rock	FS 37_A1.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Low energy intertidal rock	FS 37_A1.3	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Intertidal coarse sediment	FS 37_A2.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Intertidal sand and muddy sand	FS 37_A2.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Intertidal mud	FS 37_A2.3	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Coastal saltmarshes and saline reedbeds	FS 37_A2.5	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Subtidal coarse	FS 37_A5.1	Low	Low	

	sediment				
	Subtidal sand	FS 37_A5.2	Low	Low	
	Subtidal mud	FS 37_A5.3	Low	Low	
	European eel (<i>Anguilla anguilla</i>)	FS 37_SOCI_31	High	Mod	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 37_SOCI_8	Low	Low	
	Giant goby (<i>Gobius cobitis</i>)	FS 37_SOCI_11	Low	Low	
	Native oyster (<i>Ostrea edulis</i>)	FS 37_SOCI_22	Low	Low	
	Sea snail (<i>Paludinella littorina</i>)	FS 37_SOCI_25	Low	Low	
North of Lundy (Atlantic Array area)	Moderate energy circalittoral rock	FS 45_A4.2	Low	Low	
	Subtidal coarse sediment	FS 45_A5.1	Low	Low	
	Subtidal sand	FS 45_A5.2	Low	Low	
	Subtidal mixed sediments	FS 45_A5.4	Low	Low	
Otter Estuary	Intertidal coarse sediment	FS 21_A2.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Intertidal mud	FS 21_A2.3	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Coastal saltmarshes and saline reedbeds	FS 21_A2.5	High	High	
	High energy	FS 21_A3.1	Mod	Low	

	infralittoral rock				
	Subtidal sand	FS 21_A5.2	Low	Low	
	European eel (<i>Anguilla anguilla</i>)	FS 21_SOCI_31	High	High	
Padstow Bay and Surrounds	High energy intertidal rock	FS 38_A1.1	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Moderate energy intertidal rock	FS 38_A1.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Intertidal coarse sediment	FS 38_A2.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Intertidal sand and muddy sand	FS 38_A2.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H
	Intertidal mud	FS 38_A2.3	Low	Low	
	High energy infralittoral rock	FS 38_A3.1	Low	Low	
	Moderate energy infralittoral rock	FS 38_A3.2	Low	Low	
	High energy circalittoral rock	FS 38_A4.1	Low	Low	

Moderate energy circalittoral rock	FS 38_A4.2	Low	Low	
Subtidal coarse sediment	FS 38_A5.1	Low	Low	
Fan mussel (<i>Atrina pectinata</i> ³⁷)	FS 38_SOCI_5	No Confidence	No Confidence	
Ocean quahog (<i>Arctica islandica</i>)	FS 38_SOCI_3	Low	Low	
Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 38_SOCI_8	Mod	Mod	
Stalked jellyfish (<i>Haliclystus auricula</i>)	FS 38_SOCI_14	Low	Low	
Stalked jellyfish (<i>Lucernariopsis cruxmelitensis</i>)	FS 38_SOCI_19	Low	Low	
Spiny lobster (<i>Palinurus elephas</i>)	FS 38_SOCI_24	Low	Low	
Bottlenose dolphin (<i>Tursiops truncatus</i>)	FS 38_non-ENG_11	High	Low	
Guillemot (<i>Uria aalge</i>)	FS 38_non-ENG_9	High	No Confidence	
Razorbill (<i>Alca torda</i>)	FS 38_non-ENG_13	High	No Confidence	
Puffin (<i>Fratercula arctica</i>)	FS 38_non-ENG_14	High	No Confidence	
Fulmar (<i>Fulmarus glacialis</i>)	FS 38_non-ENG_17	High	No Confidence	
Kittiwake (<i>Rissa tridactyla</i>)	FS 38_non-ENG_12	High	No Confidence	

Poole Rocks	Subtidal sand	FS 14_A5.2	High	High	
	Subtidal mixed sediments	FS 14_A5.4	High	High	
	Moderate energy circalittoral rock	FS 14_A4.2	Low	Low	
	Couch's goby (<i>Gobius couchi</i>)	FS 14_SOCI_12	High	High	
	Native oyster (<i>Ostrea edulis</i>)	FS 14_SOCI_22	High	High	
Skerries Bank and Surrounds	High energy intertidal rock	FS 24_A1.1	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Moderate energy intertidal rock	FS 24_A1.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Intertidal coarse sediment	FS 24_A2.1	Mod	Mod	
	Intertidal sand and muddy sand	FS 24_A2.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Intertidal mud	FS 24_A2.3	Low	Low	
	Intertidal mixed sediments	FS 24_A2.4	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photo - M
	High energy infralittoral rock	FS 24_A3.1	High	Mod	
	Moderate energy infralittoral rock	FS 24_A3.2	Low	Low	
	Moderate energy circalittoral rock	FS 24_A4.2	High	Mod	

	Subtidal coarse sediment	FS 24_A5.1	Low	Low	
	Subtidal sand	FS 24_A5.2	Mod	Low	
	Subtidal mud	FS 24_A5.3	Low	Low	
	Intertidal under boulder communities	FS 24_HOCI_10	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 24_SOCI_8	High	High	
	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	FS 24_SOCI_16	Low	Low	
	Spiny lobster (<i>Palinurus elephas</i>)	FS 24_SOCI_24	Mod	Mod	
Isles of Scilly: Smith Sound Non-Disturbance Area	High energy infralittoral rock	FS 35b_A3.1	Mod	Low	
	Tide-swept channels	FS 35b_HOCI_22	Low	Low	
	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 35b_SOCI_2	Low	Low	
	Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 35b_SOCI_8	Low	Low	
	Spiny lobster (<i>Palinurus elephas</i>)	FS 35b_SOCI_24	Low	Low	
	Moderate energy intertidal rock	FS 35b_A1.2	No Confidence	No Confidence	
	Moderate energy infralittoral rock	FS 35b_A3.2	Mod	Low	
South of Falmouth	Moderate energy	FS 31_A4.2	Low	Low	

	circalittoral rock				
	Subtidal coarse sediment	FS 31_A5.1	Low	Low	
South of Portland	High energy circalittoral rock	FS 18_A4.1	Low	Low	
	Moderate energy circalittoral rock	FS 18_A4.2	Low	Low	
	Subtidal coarse sediment	FS 18_A5.1	Low	Low	
	Subtidal sand	FS 18_A5.2	Low	Low	
	Subtidal mixed sediments	FS 18_A5.4	Low	Low	
	Portland Deep	FS 18_G5	High	High	
South-East of Portland Bill	High energy circalittoral rock	FS RA 05_A4.1	Low	Low	
	Blue mussel beds	FS RA 05_HOCI_1	High	High	
Studland Bay	Intertidal sand and muddy sand	FS 15_A2.2	Low	Low	
	Intertidal mud	FS 15_A2.3	Low	Low	
	Subtidal sand	FS 15_A5.2	Low	Low	
	Subtidal mixed sediments	FS 15_A5.4	High	High	
	Seagrass beds	FS 15_HOCI_17	High	Mod	
	Undulate ray (<i>Raja undulata</i>)	FS 15_SOCI_33	Low	Low	
	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	FS 15_SOCI_16	Low	Low	
Native oyster (<i>Ostrea edulis</i>)	FS 15_SOCI_22	Low	Low		
Swanpool	Trembling sea mat (<i>Victorella</i>)	FS RA 11_SOCI_29	High	Mod	

	<i>pavida</i>)				
Tamar Estuary Sites	Intertidal coarse sediment	FS 27_A2.1	High	Mod	Visual and empirical confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Intertidal biogenic reefs	FS 27_A2.7	High	Mod	Visual and empirical confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Blue mussel beds	FS 27_HOCI_1	High	Low	
	European eel (<i>Anguilla anguilla</i>)	FS 27_SOCI_31	High	High	
	Smelt (<i>Osmerus eperlanus</i>)	FS 27_SOCI_32	High	Low	
	Native oyster (<i>Ostrea edulis</i>)	FS 27_SOCI_22	Low	Low	
Taw Torridge Estuary	Low energy intertidal rock	FS 42_A1.3	Low	Low	
	Intertidal coarse sediment	FS 42_A2.1	Low	Low	
	Intertidal sand and muddy sand	FS 42_A2.2	Mod	Mod	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos -M
	Coastal saltmarshes and saline reedbeds	FS 42_A2.5	High	Mod	Visual confirmation of feature by Natural England local marine advisor including geo-referenced photos -H
	Subtidal sand	FS 42_A5.2	Low	Low	
	Subtidal mud	FS 42_A5.3	High	Low	
	European eel (<i>Anguilla anguilla</i>)	FS 42_SOCI_31	High	High	

Isles of Scilly: Tean Non-Disturbance Area	Intertidal coarse sediment	FS 35a_A2.1	Mod	Low	
	Moderate energy infralittoral rock	FS 35a_A3.2	Low	Low	Visual confirmation of feature by Natural England local marine advisor only - L
	Subtidal mixed sediments	FS 35a_A5.4	High	Mod	
	Intertidal under boulder communities	FS 35a_HOCI_10	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.
	Seagrass beds	FS 35a_HOCI_17	High	High	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Jackson et al (2011) - Intertidal feature presence confidence increased to high. H
	Tide-swept channels	FS 35a_HOCI_22	Low	Low	
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 35a_HOCI_7	No Confidence	No Confidence	
	Moderate energy intertidal rock	FS 35a_A1.2	Low	Low	Visual confirmation of feature by Natural England local marine advisor only - L
	Subtidal macrophyte-dominated sediment	FS 35a_A5.5	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Jackson et al (2011) - subtidal feature presence confidence increased to high. H
	Stalked jellyfish (2 species)	FS 35a_SOCI_14 or SOCI_19 or SOCI_20	No Confidence	No Confidence	
	The Fal	Low energy intertidal rock	FS RA 10_A1.3	Mod	Low

	Intertidal coarse sediment	FS RA 10_A2.1	High	High	Visual confirmation of feature by Natural England local marine advisor and supporting photographs
	Subtidal coarse sediment	FS RA 10_A5.1	High	High	
	Subtidal sand	FS RA 10_A5.2	High	High	
	Subtidal macrophyte-dominated sediment	FS RA 10_A5.5	High	High	
	Maerl beds	FS RA 10_HOCI_12	High	Mod	
	Seagrass beds	FS RA 10_HOCI_17	Low	Low	
	Grateloup's little-lobed weed (<i>Grateloupia montagnei</i>)	FS RA 10_SOCI_30	No Confidence	No Confidence	
	European eel (<i>Anguilla anguilla</i>)	FS RA 10_SOCI_31	Mod	Mod	
	Burgundy maerl paint weed (<i>Cruoria cruoriaeformis</i>)	FS RA 10_SOCI_7	Low	Low	
	Couch's goby (<i>Gobius couchi</i>)	FS RA 10_SOCI_12	Low	Low	
	Coral maerl (<i>Lithothamnion corallioides</i>)	FS RA 10_SOCI_18	Mod	Mod	
	Native oyster (<i>Ostrea edulis</i>)	FS RA 10_SOCI_22	Mod	Mod	
	Common maerl (<i>Phymatolithon calcareum</i>)	FS RA 10_SOCI_26	Mod	Mod	
The Fleet	Intertidal coarse sediment	FS RA 06_A2.1	No Confidence	No Confidence	Visual confirmation of feature absence by Natural England local marine advisor - Intertidal feature presence confidence

					reduced to no confidence. L
	Intertidal mud	FS RA 06_A2.3	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Coastal saltmarshes and saline reedbeds	FS RA 06_A2.5	High	High	Visual confirmation of feature by Natural England local marine advisor
	Intertidal sediments dominated by aquatic angiosperms	FS RA 06_A2.6	High	High	Visual confirmation of feature by Natural England local marine advisor supported recent images from survey work - H
	Subtidal coarse sediment	FS RA 06_A5.1	No Confidence	No Confidence	Visual confirmation of feature absence by Natural England local marine advisor - Subtidal feature presence confidence reduced to no confidence.
	Seagrass beds	FS RA 06_HOCI_17	High	High	Visual confirmation of feature by Natural England local marine advisor supported recent images from survey work -H
	Lagoon sea slug (<i>Tenellia adpersa</i>)	FS RA 06_SOCI_28	Mod	Mod	
The Manacles	Moderate energy intertidal rock	FS 32_A1.2	Mod	Mod	Visual confirmation of parent feature by Natural England local marine advisor supported by CCO data and NE site visit for groundtruthing with geo-referenced photos - M
	Intertidal coarse sediment	FS 32_A2.1	High	High	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H

Intertidal sand and muddy sand	FS 32_A2.2	Low	Low	
Intertidal mud	FS 32_A2.3	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H
Intertidal mixed sediments	FS 32_A2.4	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by CCO data and NE site visit for groundtruthing with geo-referenced photos - M
Moderate energy infralittoral rock	FS 32_A3.2	Mod	Mod	
Moderate energy circalittoral rock	FS 32_A4.2	Mod	Mod	
Subtidal coarse sediment	FS 32_A5.1	High	High	
Subtidal sand	FS 32_A5.2	Mod	Mod	
Subtidal mixed sediments	FS 32_A5.4	Mod	Mod	
Subtidal macrophyte-dominated sediment	FS 32_A5.5	High	High	
Maerl beds	FS 32_HOCI_12	Low	Low	
Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 32_SOCI_2	Mod	Mod	
Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 32_SOCI_8	High	High	
Stalked jellyfish	FS	Low	Low	

	<i>(Halicyclstus auricula)</i>	32_SOCI_14			
	Sunset cup coral <i>(Leptopsammia pruvoti)</i>	FS 32_SOCI_17	Low	Low	
	Spiny lobster <i>(Palinurus elephas)</i>	FS 32_SOCI_24	Mod	Mod	
	Basking shark <i>(Cetorhinus maximus)</i>	FS 32_non-ENG_10	High	No Confidence	
	Harbour porpoise <i>(Phocoena phocoena)</i>	FS 32_non-ENG_4	High	No Confidence	
Torbay	Moderate energy intertidal rock	FS 22_A1.2	High	Low	
	Low energy intertidal rock	FS 22_A1.3	High	Low	
	Intertidal coarse sediment	FS 22_A2.1	Mod	Low	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to medium.
	Intertidal sand and muddy sand	FS 22_A2.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Intertidal mud	FS 22_A2.3	Low	Low	
	Intertidal mixed sediments	FS 22_A2.4	Low	Low	
	Subtidal mud	FS 22_A5.3	High	Mod	
	Intertidal under boulder communities	FS 22_HOCI_10	Mod	Mod	
	Seagrass beds	FS 22_HOCI_17	High	Low	Visual confirmation of feature by Natural England local marine

					advisor supported by geo-referenced photo - H
Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	FS 22_HOCI_8	Mod	Low		
Long snouted seahorse (<i>Hippocampus guttulatus</i>)	FS 22_SOCI_15	Low	Low		
Native oyster (<i>Ostrea edulis</i>)	FS 22_SOCI_22	Mod	Low		
Peacock's tail (<i>Padina pavonica</i>)	FS 22_SOCI_23	Low	Low		
Sea snail (<i>Paludinella littorina</i>)	FS 22_SOCI_25	Low	Low		
Black throated diver (<i>Gavia arctica</i>)	FS 22_non-ENG_2	High	No Confidence		
Great northern diver (<i>Gavia immer</i>)	FS 22_non-ENG_3	High	No Confidence		
Harbour porpoise (<i>Phocoena phocoena</i>)	FS 22_non-ENG_4	High	Low		
Horned grebe (<i>Podiceps auritus</i>)	FS 22_non-ENG_5	High	No Confidence		
Great crested grebe (<i>Podiceps cristatus</i>)	FS 22_non-ENG_6	High	No Confidence		
Red necked grebe (<i>Podiceps grisegena</i>)	FS 22_non-ENG_7	High	No Confidence		
Black necked grebe	FS 22_non-ENG_8	High	No Confidence		

	<i>(Podiceps nigricollis)</i>				
	Guillemot (<i>Uria aalge</i>)	FS 22_non-ENG_9	High	Low	
	Black throated diver (<i>Gavia arctica</i>)	FS 22_non-ENG_2	High	No Confidence	
	Great northern diver (<i>Gavia immer</i>)	FS 22_non-ENG_3	High	No Confidence	
Upper Fowey and Pont Pill	Low energy intertidal rock	FS 29_A1.3	Mod	Mod	
	Intertidal coarse sediment	FS 29_A2.1	Low	Low	
	Intertidal sand and muddy sand	FS 29_A2.2	Mod	Mod	
	Intertidal mud	FS 29_A2.3	High	Mod	
	Coastal saltmarshes and saline reedbeds	FS 29_A2.5	Low	Low	
	Sheltered muddy gravels	FS 29_HOCI_19	Low	Low	
	Estuarine rocky habitats	FS 29_HOCI_5	High	Mod	
	European eel (<i>Anguilla anguilla</i>)	FS 29_SOCI_31	High	High	
Whitsand and Looe Bay	High energy intertidal rock	FS 28_A1.1	Mod	Mod	
	Moderate energy intertidal rock	FS 28_A1.2	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
	Low energy intertidal rock	FS 28_A1.3	High	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo -

					H
Intertidal coarse sediment	FS 28_A2.1	High	Low		Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
Intertidal sand and muddy sand	FS 28_A2.2	High	Low		Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
Intertidal mixed sediments	FS 28_A2.4	High	Low		Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
High energy infralittoral rock	FS 28_A3.1	Low	Low		
Subtidal coarse sediment	FS 28_A5.1	Mod	Low		
Subtidal sand	FS 28_A5.2	Low	Low		
Seagrass beds	FS 28_HOCI_17	High	Low		Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H
Moderate energy circalittoral rock	FS 28_A4.2	Low	No Confidence		
Ocean quahog (<i>Arctica islandica</i>)	FS 28_SOCI_3	Mod	Mod		
Sea-fan anemone (<i>Amphianthus dohrnii</i>)	FS 28_SOCI_2	High	High		
Pink sea-fan (<i>Eunicella verrucosa</i>)	FS 28_SOCI_8	High	High		
Giant goby (<i>Gobius cobitis</i>)	FS 28_SOCI_11	Low	Low		
Stalked jellyfish (<i>Haliclystus</i>)	FS 28_SOCI_14	Low	Low		

	<i>auricula</i>)				
	Long snouted seahorse (<i>Hippocampus guttulatus</i>)	FS 28_SOC1_15	Low	Low	

Table 22 Confidence in presence and extent for Irish Sea Conservation Zones offshore and joint recommended Marine Conservation Zones

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
Mid St George's Channel	A4.2 Moderate energy circalittoral rock	ISCZ 04A4.2	Low	Low	
	A5.1 Subtidal coarse sediment	ISCZ 04A5.1	Mod	Mod	
	A5.2 Subtidal sands	ISCZ 04A5.2	Mod	Mod	
	A5.4 Subtidal mixed sediments	ISCZ 04A5.4	Low	Low	
	Subtidal sands and gravels	ISCZ 04HOCI_21	Mod	Low	
	A4.2 Moderate energy circalittoral rock	ISCZ RA CA4.2	Low	Low	
	A5.1 Subtidal coarse sediment	ISCZ RA CA5.1	Low	Low	
	A5.2 Subtidal sands	ISCZ RA CA5.2	Low	Low	
	A5.4 Subtidal mixed sediments	ISCZ RA CA5.4	Low	Low	
	Subtidal sands and gravels	ISCZ RA CHOCI_21	Low	Low	
Mud Hole	A5.3 Subtidal mud	ISCZ 01A5.3	High	Mod	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	Mud habitats in deep water	ISCZ 01HOCI_13	High	Mod	
	Sea-pen and burrowing megafauna communities	ISCZ 01HOCI_18	High	Low	
	A5.3 Subtidal mud	ISCZ RA AA5.3	High	Low	
	Mud habitats in deep water	ISCZ RA AHOCI_13	High	Low	
	Sea-pen and burrowing megafauna communities	ISCZ RA AHOCI_18	High	Low	
North of Celtic Deep	A4.2 Moderate energy circalittoral rock	ISCZ 05A4.2	Low	Low	
	A5.2 Subtidal sands	ISCZ 05A5.2	Mod	Low	
	A5.1 Subtidal coarse sediment	ISCZ 05A5.1	Mod	Mod	Multiple ground-truthing records available and >50% agreement across records. BGS points confirm the presence and extent of parent feature
	Subtidal sands and gravels	ISCZ 05HOCI_21	Mod	Mod	
	Ocean quahog <i>Arctica islandica</i>	ISCZ 05SOCI_3	Low	Low	
North St George's Channel	A4.1 High energy circalittoral rock	ISCZ 03A4.1	Low	Low	
	A4.2 Moderate energy circalittoral rock	ISCZ 03A4.2	Mod	Mod	
	A5.1 Subtidal coarse sediment	ISCZ 03A5.1	High	Mod	
	A5.2 Subtidal	ISCZ 03A5.2	High	Low	Sample data covers <50% of the feature;

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	sands				however, confidence in extent reduced to low because JNCC survey data indicates a different habitat within part of the extent
	A5.4 Subtidal mixed sediments	ISCZ 03A5.4	Mod	Mod	Presence of feature supported by interpreted ground-truthing data with more than 90% agreement. BGS points support the feature (NB one point falls within the 'extention'). Moderate confidence only due to BGS data points
	A5.6 Subtidal biogenic reefs	ISCZ 03A5.6	Low	Low	<i>Modiolus</i> records insufficient to indicate reef over the North-West Anglesey Area of Search, therefore considered by JNCC to be species only
	Drumlins	ISCZ 03Drumlins	High	Mod	Polygon contains representative sample of more extensive feature.
	Ross worm <i>Sabellaria spinulosa</i> reefs	ISCZ 03HOCI_16	Low	Low	
	Subtidal sands and gravels	ISCZ 03HOCI_21	High	Mod	
	Horse mussel <i>Modiolus modiolus</i> beds	ISCZ 03HOCI_9	Low	Low	
	Ocean quahog <i>Arctica islandica</i>	ISCZ 03SOCI_3	Low	Low	
North St George's Channel (1)	A4.1 High energy circalittoral rock	ISCZ RA BA4.1	Low	Low	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	A4.2 Moderate energy circalittoral rock	ISCZ RA BA4.2	Mod	Mod	
	A5.1 Subtidal coarse sediment	ISCZ RA BA5.1	Low	Low	
	Subtidal sands and gravels	ISCZ RA BHOCI_21	Low	Low	
North St George's Channel (2)	A4.2 Moderate energy circalittoral rock	ISCZ RA SA4.2	Mod	Low	<i>Modiolus</i> records insufficient to indicate reef, therefore considered by JNCC to be species only
	A5.1 Subtidal coarse sediment	ISCZ RA SA5.1	Mod	Low	
	A5.2. Subtidal sands	ISCZ RA SA5.2	Low	Low	
	A5.4 Subtidal mixed sediments	ISCZ RA SA5.4	Low	Low	
	A5.6 Subtidal biogenic reefs	ISCZ RA SA5.6	None	None	
	Horse mussel (<i>Modiolus modiolus</i>) beds	ISCZ RA SHOCI_9	None	None	
Slieve Na Griddle	A4.3 Low energy circalittoral rock	ISCZ 07A4.3	High	High	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Pisces Reef. Part of the data acquisition for the MCZ process has identified areas outside the current possible SAC (pSAC) boundary that may be Annex 1 reef. These areas are being investigated and will be considered for inclusion within the Pisces Reef complex
	A5.3 Subtidal	ISCZ 07A5.3	High	Mod	Presence of feature

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	mud				supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and feature is part of the Pisces Reef complex SAC
	Mud habitats in deep water	ISCZ 07HOCI_13	High	Mod	
Slieve Na Griddle RA	A4.3 Low energy circalittoral rock	ISCZ RA GA4.3	High	High	
	A5.3 Subtidal mud	ISCZ RA GA5.3	High	High	
	Mud habitats in deep water	ISCZ RA GHOCI_13	High	High	
South Rigg	A4.3 Low energy circalittoral rock	ISCZ 06A4.3	Mod	Low	
	A5.3 Subtidal mud	ISCZ 06A5.3	High	Low	
	A5.2 Subtidal sands	ISCZ 06A5.2	Low	Low	
	Mud habitats in deep water	ISCZ 06HOCI_13	Low	Low	
	Sea-pen and burrowing megafauna communities	ISCZ 06HOCI_18	High	Mod	
	Ocean quahog <i>Arctica islandica</i>	ISCZ 06SOCI_3	Mod	Mod	
South Rigg RA	A5.2 Subtidal sands	ISCZ RA FA5.2	Low	Low	Records on available within the MCZ and not the feature within the RA
	A5.3 Subtidal mud	ISCZ RA FA5.3	Low	Low	
	Ocean quahog <i>Arctica islandica</i>	ISCZ RA FSOCI_3	Mod	Mod	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
Walney and West Duddon Sands Co-Location Zone	A5.2 Subtidal sand	ISCZ 02aA5.2	Low	Low	
West of Walney	A5.3 Subtidal mud	ISCZ 02A5.3	Mod	Mod	Presence of feature supported by interpreted ground-truthing data. Moderate confidence only due to use of BGS data points
	Mud habitats in deep water	ISCZ 02HOCI_13	Mod	Mod	
	Sea-pen and burrowing megafauna communities	ISCZ 02HOCI_18	Low	Low	

Table 23 Confidence in presence and extent for Irish Sea Conservation Zones inshore recommended Marine Conservation Zones

Site name	Feature name	Unique ID	Presence confidence	Extent confidence	Comments
Allonby Bay	High energy intertidal rock	ISCZ 10_A1.1	Low	Low	
	Intertidal biogenic reefs	ISCZ 10_A2.7	High	Mod	
	Subtidal coarse sediment	ISCZ 10_A5.1	High	Low	
	Subtidal sand	ISCZ 10_A5.2	Low	Low	
	Peat and clay exposures	ISCZ 10_HOCI_15	Low	Low	
	Subtidal sands and gravels	ISCZ 10_HOCI_21	Low	Low	
	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	ISCZ 10_HOCI_8	High	Mod	Presence of <i>Sabellaria alveolata</i> HOCI confirmed by survey report and photographs in: NWIFCA Cumbria Shore Survey 2011 (Lancaster 2012) .
	Blue mussel beds	ISCZ 10_HOCI_1	High	Low	
Allonby Bay (RA)	Moderate energy infralittoral rock	ISCZ RA H_A3.2	High	Low	
	Subtidal coarse sediment	ISCZ RA H_A5.1	High	Low	
	Subtidal sands and gravels	ISCZ RA H_HOCI_21	Low	Low	
	Subtidal sand	ISCZ RA H_A5.2	High	Low	
Barrow North (RA)	Intertidal mud	ISCZ RA Y_A2.3	High	Low	
	Coastal saltmarshes and saline reedbeds	ISCZ RA Y_A2.5	High	High	
	Subtidal coarse sediment	ISCZ RA Y_A5.1	Low	Low	

Barrow South (RA)	Intertidal mud	ISCZ RA W_A2.3	High	High	
	Intertidal sediments dominated by aquatic angiosperms	ISCZ RA W_A2.6	High	High	
	Seagrass beds	ISCZ RA W_HOCI_17	High	High	
Cumbria Coast	High energy intertidal rock	ISCZ 11_A1.1	High	Low	Visual confirmation of feature supported by photographs of the interest feature by Natural England local marine advisor and aerial photography - Intertidal feature presence confidence increased to high.
	Intertidal sand and muddy sand	ISCZ 11_A2.2	High	Low	
	Intertidal biogenic reefs	ISCZ 11_A2.7	High	Mod	
	High energy infralittoral rock	ISCZ 11_A3.1	High	Low	
	Blue Mussel Beds	ISCZ 11_HOCI_1	High	Low	
	Intertidal under boulder communities	ISCZ 11_HOCI_10	High	Low	Visual confirmation of feature supported by geo-referenced photographs by Natural England local marine advisor and aerial photography - Intertidal feature presence confidence increased to high.
	Peat and clay exposures	ISCZ 11_HOCI_15	Mod	Low	
	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	ISCZ 11_HOCI_8	High	Mod	Presence of Intertidal under boulder communities HOCI confirmed by survey report and photographs in: NWIFCA Cumbria Shore Survey 2011 (Lancaster 2012).

	Black guillemot (<i>Cephus grille</i>)	ISCZ 11_non- ENG_18	High	Low	
Cumbrian Coast (1) (RA)	High energy intertidal rock	ISCZ RA I_A1.1	High	Low	Visual confirmation of feature supported by photographs of the interest feature by Natural England local marine advisor and aerial photography - Intertidal feature presence confidence increased to high.
	Subtidal sand	ISCZ RA I_A5.2	Low	Low	
	Subtidal mud	ISCZ RA I_A5.3	Low	Low	
	Intertidal under boulder communities	ISCZ RA I_HOCI_10	High	Low	Visual confirmation of feature supported by photographs by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Subtidal sands and gravels	ISCZ RA I_HOCI_21	Low	Low	
Cumbrian Coast (2) (RA)	High energy intertidal rock	ISCZ RA J_A1.1	High	Mod	
	Intertidal mixed sediments	ISCZ RA J_A2.4	High	Low	
	Subtidal sand	ISCZ RA J_A5.2	High	Low	
	Intertidal under boulder communities	ISCZ RA J_HOCI_10	High	Low	
	Subtidal sands and gravels	ISCZ RA J_HOCI_21	Low	Low	
Cunning Point (RA)	Moderate energy intertidal rock	ISCZ RA T_A1.2	High	Mod	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Subtidal mud	ISCZ RA T_A5.3	Low	Low	
	Subtidal sands and gravels	ISCZ RA T_HOCI_21	Low	Low	

Fylde Offshore	Subtidal sand	ISCZ 08_A5.2	High	High	
	Subtidal sands and gravels	ISCZ 08_HOCI_21	High	High	
Hilbre Island Group	Blue Mussel Beds	ISCZ 14_HOCI_1	High	Mod	
	Peat and clay exposures	ISCZ 14_HOCI_15	High	Mod	
Ribble	European eel (<i>Anguilla anguilla</i>)	ISCZ 17_SOCI_31	High	High	
	Smelt (<i>Osmerus eperlanus</i>)	ISCZ 17_SOCI_32	High	High	
Sefton Coast	Peat and clay exposures	ISCZ 13_HOCI_15	High	Low	
Sefton Coast (RA)	Peat and clay exposures	ISCZ RA Z_HOCI_15	High	Low	
Solway Firth	European eel (<i>Anguilla anguilla</i>)	ISCZ 15_SOCI_31	High	High	
	Smelt (<i>Osmerus eperlanus</i>)	ISCZ 15_SOCI_32	High	High	
Tarn Point	Intertidal biogenic reefs	ISCZ RA K_A2.7	High	Mod	
	High energy infralittoral rock	ISCZ RA K_A3.1	Low	Low	
	Blue Mussel Beds	ISCZ RA K_HOCI_1	High	Low	
	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	ISCZ RA K_HOCI_8	High	Mod	
	Intertidal sand and muddy sand	ISCZ RA K_A2.2	Low	Low	
	Subtidal coarse sediment	ISCZ RA K_A5.1	Low	Low	
	Subtidal sand	ISCZ RA K_A5.2	Low	Low	

	Subtidal sands and gravels	ISCZ RA K_HOCI_21	Low	Low	
West of Walney Proposed Co-Location Zone	Subtidal mud	ISCZ 02a&b_A5.3	High	High	
	Subtidal sand	ISCZ 02a&b_A5.2	High	High	
	Mud habitats in deep water	ISCZ 02a&b_HOCI_13	High	High	
	Sea pens and burrowing megafauna	ISCZ 02a&b_HOCI_18	High	High	
Wyre-Lune	European eel (<i>Anguilla anguilla</i>)	ISCZ 16_SOCI_31	High	High	
	Smelt (<i>Osmerus eperlanus</i>)	ISCZ 16_SOCI_32	High	High	

Table 24 Confidence in presence and extent for Net Gain offshore and joint recommended Marine Conservation Zones

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
Compass Rose	A4.2 Moderate energy circalittoral rock	NG 12A4.2	Low	Low	
Compass Rose RA	A4.2 Moderate energy circalittoral rock	NG RA 10A4.2	Low	Low	
	A5.2 Subtidal sand	NG RA 10A5.2	Low	Low	
	Subtidal sands and gravels (modelled)	NG RA 10HOCI_21	Low	Low	
Farnes Clay	A4.2 Moderate energy circalittoral rock	NG RA 12A4.2	Low	Low	
	A5.2 Subtidal sand	NG RA 12A5.2	Low	Low	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	Peat and clay exposures	NG RA 12HOCI_15	Low	low	
	Subtidal sands and gravels	NG RA 12HOCI_21	Low	Low	
Farnes East	A4.2 Moderate energy circalittoral rock	NG 14A4.2	Low	Low	
	A5.1 Subtidal coarse sediment	NG 14A5.1	High	Mod	
	A5.2 Subtidal sand	NG 14A5.2	Mod	Low	
	A5.3 Subtidal mud	NG 14A5.3	Low	Low	
	A5.4 Subtidal mixed sediments	NG 14A5.4	Low	Low	
	Peat and clay exposures	NG 14HOCI_15	Low	Low	
Fulmar	A5.1 Subtidal coarse sediment	NG 17A5.1	High	Mod	
	A5.2 Subtidal sand	NG 17A5.2	High	High	
	Subtidal sands and gravels (modelled)	NG 17HOCI_21	Low	Low	
	Ocean quahog <i>Arctica islandica</i>	NG 17SOCl_3	Mod	Low	
Holderness Offshore	A5.1 Subtidal coarse sediment	NG 09A5.1	Mod	Mod	
	A5.4 Subtidal mixed sediments	NG 09A5.4	Mod	Mod	
Markham's Triangle	A5.1 Subtidal coarse sediment	NG 07A5.1	Mod	Low	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	A5.2 Subtidal sand	NG 07A5.2	Mod	Mod	
Orford Inshore	A5.4 Subtidal mixed sediments	NG 01bA5.4	High	High	
Rock Unique	A4.3 Low energy circalittoral rock	NG 15A4.3	Low	Low	Modelled data available. BGS data points cover this feature but they are not an appropriate survey method for this habitat at this particular site
	A5.2 Subtidal sand	NG 15A5.2	Mod	Mod	
	A5.1 Subtidal coarse sediment	NG 15A5.1	Mod	Mod	
	Subtidal sands and gravels	NG 15HOCI_21	Mod	Mod	
Rock Unique RA	A4.3 Low energy circalittoral rock	NG RA 13A4.3	Low	Low	
	A5.1 Subtidal coarse sediment	NG RA 13A5.1	Low	Low	
	A5.2 Subtidal sand	NG RA 13A5.2	Mod	Mod	
	Subtidal sands and gravels	NG RA 13HOCI_21	Mod	Low	
Silver Pit	A5.2 Subtidal sand	NG 06A5.2	Mod	Mod	Humber REC habitat map covers 100% of site; however, there is disagreement between data sources regarding the extent of the feature, in particular the interpretation of the underlying datasets used in the REC map
	A5.4 Subtidal mixed sediments	NG 06A5.4	High	Mod	

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	Ross worm <i>Sabellaria spinulosa</i> reefs	NG 06HOCI_16	High	High	Humber REC <i>Sabellaria spinulosa</i> data is supported by a Humber REC habitat map (that covers more than 50% of the recommended feature. The data points from the REC survey directly support the feature
	Subtidal sands and gravels	NG 06HOCI_21	Mod	Low	Humber REC habitat map (A5.4 and A5.2) covers 100% of site but there is disagreement between data points regarding the recommended extent
Swallow Sand	A5.1 Subtidal coarse sediment	NG 16A5.1	High	Mod	
	A5.2 Subtidal sand	NG 16A5.2	High	Mod	
	Subtidal sands and gravels	NG 16HOCI_21	High	Mod	
	North Sea glacial tunnel valleys (Swallow Hole)	NG 16North Sea glacial tunnel valleys (Swallow Hole)	High	Mod	
Wash Approach	A5.2 Subtidal sand	NG 04A5.2	High	Mod	While the Humber REC habitat map and MESH maps cover ~100% of the site, they agree about less than 50% of the feature
	A5.4 Subtidal mixed sediments	NG 04A5.4	High	Mod	MASLF Humber REC habitat map and GB000240 agree about the presence and over 50% of the feature. Both x and x have a MESH confidence score of over 58% and cover more than 90% of the feature

Site name	Feature	Unique ID	Presence confidence	Extent confidence	Comments
	Subtidal sands and gravels	NG 04HOCl_21	High	Mod	
Wash Approach RA	A5.4 Subtidal mixed sediments	NG RA 08A5.4	Mod	Low	Presence of feature shown by a habitat map; however, none of the validation samples are within the reference area, they are only within site
	Subtidal sands and gravels	NG RA 08HOCl_21	Mod	Low	Presence of feature shown by a habitat map with polygons containing biological validation samples; however, none of the validation samples are within the reference area, they are only within site

Table 25 Confidence in presence and extent for Net Gain inshore recommended Marine Conservation Zones

Site name	Feature	Unique ID	Presence Confidence	Extent Confidence	Comments
Alde Ore Estuary	Sheltered muddy gravels	NG 01c_HOCl_19	Mod	Low	
	Estuarine rocky habitats	NG 01c_HOCl_5	No Confidence	No Confidence	
	Smelt (<i>Osmerus eperlanus</i>)	NG 01c_SOCl_32	Mod	Mod	
	Orfordness (Subtidal)	NG 01c_G6	High	Low	
Aln Estuary	Intertidal mud	NG 13a_A2.3	High	Mod	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Coastal saltmarshes and saline reed beds	NG 13a_A2.5	High	Mod	Intertidal feature where extent confidence reduced to moderate due to managed realignment, resulting in differences in extent since the projects

					recommended were submitted.
	High energy infralittoral rock	NG 13a_A3.1	Low	Low	
	Sheltered muddy gravels	NG 13a_HOCI_19	Mod	Low	
	Subtidal sands and gravels	NG 13a_HOCI_21	Low	Low	
	Estuarine rocky habitats	NG 13a_HOCI_5	High	Mod	
Berwick Coast (RA)	High energy intertidal rock	NG RA 11_A1.1	High	High	
	Moderate energy intertidal rock	NG RA 11_A1.2	High	High	
	Low energy intertidal rock	NG RA 11_A1.3	High	High	
	Subtidal coarse sediment	NG RA 11_A5.1	Low	Low	
	Intertidal under boulder communities	NG RA 11_HOCI_10	High	Mod	
	Subtidal sands and gravels	NG RA 11_HOCI_21	Low	Low	
Blakeney Marsh (RA)	Intertidal sand and muddy sand	NG RA 04_A2.2	High	High	
	Intertidal mud	NG RA 04_A2.3	High	High	
	Coastal saltmarshes and saline reed beds	NG RA 04_A2.5	High	High	
	Littoral chalk communities	NG RA 04_HOCI_11	No Confidence	No Confidence	Visual confirmation of feature absence by Natural England local marine advisor - Intertidal

					feature presence confidence reduced to no confidence.
	North Norfolk coast (Subtidal)	NG RA 04_G7	High	Low	
Blakeney Seagrass (RA)	Intertidal mud	NG RA 05_A2.3	High	Mod	
	Seagrass beds	NG RA 05_HOCI_17	High	High	
	Intertidal sand and muddy sand	NG RA 05_A2.2	Mod	Low	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photos - Intertidal feature presence confidence increased to high.
	North Norfolk coast (Subtidal)	NG RA 05_G7	High	Low	
Castle Ground	High energy intertidal rock	NG 10_A1.1	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.
	Black guillemot (<i>Cephus grille</i>)	NG 10_A1.2	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.
	Low energy intertidal rock	NG 10_A1.3	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.
	Intertidal coarse sediment	NG 10_A2.1	High	Low	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced

					photographs. - Intertidal feature presence confidence increased to moderate.
	Intertidal sand and muddy sand	NG 10_A2.2	High	High	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.
	Intertidal mud	NG 10_A2.3	High	High	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.
	Intertidal under boulder communities	NG 10_HOCI_10	High	Mod	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
Coquet to St Mary's	Moderate energy intertidal rock	NG 13_A1.2	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.
	Low energy intertidal rock	NG 13_A1.3	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.
	Intertidal coarse sediment	NG 13_A2.1	High	Mod	
	Intertidal sand and muddy sand	NG 13_A2.2	High	Mod	
	Intertidal mud	NG 13_A2.3	High	Mod	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Intertidal mixed	NG 13_A2.4	High	Mod	Visual confirmation of feature by Natural

	sediments				England local marine advisor - Intertidal feature presence confidence increased to high.
	High energy infralittoral rock	NG 13_A3.1	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.
	Moderate energy infralittoral rock	NG 13_A3.2	Low	Low	
	Moderate energy circalittoral rock	NG 13_A4.2	Low	Low	
	Subtidal coarse sediment	NG 13_A5.1	Mod	Low	
	Subtidal sand	NG 13_A5.2	Low	Low	
	Subtidal mud	NG 13_A5.3	Low	Low	
	Subtidal mixed sediments	NG 13_A5.4	Mod	Low	
	Intertidal under boulder communities	NG 13_HOCI_10	High	Mod	
Cromer Shoal Chalk Beds	High energy infralittoral rock	NG 02_A3.1	Low	Low	
	Moderate energy infralittoral rock	NG 02_A3.2	Low	Low	
	Moderate energy circalittoral rock	NG 02_A4.2	Low	Low	
	Subtidal chalk	NG 02_HOCI_20	High	Low	
	North Norfolk coast	NG 02_G7	High	Low	

	(Subtidal)				
Dogs Head Sandbanks (RA)	Intertidal mud	NG RA 06_A2.3	No Confidence	No Confidence	This is likely to have been incorrectly recorded by the project. Although modelled maps showed mud, this is an Intertidal sand feature which is always referred to as Intertidal sand in the final reports. So low confidence for presence and extent of the recorded mud feature.
	Subtidal sand	NG RA 06_A5.2	High	High	
	Subtidal mud	NG RA 06_A5.3	Mod	Mod	
	Subtidal mixed sediments	NG RA 06_A5.4	Mod	Mod	
	Subtidal biogenic reefs	NG RA 06_A5.6	Mod	Mod	
	Ross worm reefs (<i>Sabellaria spinulosa</i>)	NG RA 06_HOCI_16	Low	Low	
	Subtidal chalk	NG RA 06_HOCI_20	Low	Low	
	Subtidal sands and gravels	NG RA 06_HOCI_21	High	High	
	Gibraltar point (Subtidal)	NG RA 06_G3	High	Low	
Flamborough Head No Take Zone (RA)	Moderate energy intertidal rock	NG RA 09_A1.2	Mod	Mod	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Intertidal coarse sediment	NG RA 09_A2.1	High	Mod	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.
	Intertidal sand and muddy sand	NG RA 09_A2.2	High	Mod	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence

					increased to high.
	High energy infralittoral rock	NG RA 09_A3.1	High	High	
	Moderate energy infralittoral rock	NG RA 09_A3.2	High	High	
	Littoral chalk communities	NG RA 09_HOCI_11	High	Mod	Visual confirmation by Natural England local marine advisor supported by extensive and multiple mapping studies that support the feature presence have taken place due to NTZ status - Seasearch/ universities.
	Subtidal sands and gravels	NG RA 09_HOCI_21	High	Low	
Glaven Reedbed (RA)	Coastal saltmarshes and saline reedbeds	NG RA 03_A2.5	High	High	
Holderness Inshore	Intertidal mixed sediments	NG 08_A2.4	High	Mod	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.
	Subtidal coarse sediment	NG 08_A5.1	High	Mod	Ecological Assessment of Yorkshire Coast using roxann GDA, grab sampling and drop down video. Report to North Eastern Sea Fisheries Committee, Institute of Estuarine and Coastal Studies, University of Hull confirms feature presence
	Subtidal sand	NG 08_A5.2	High	Mod	
	Peat and clay exposures	NG 08_HOCI_15	Low	Low	
	Ross worm reefs	NG 08_HOCI_16	Low	Low	

	(<i>Sabellaria spinulosa</i>)				
	Subtidal chalk	NG 08_HOCI_20	Low	Low	
	Subtidal sands and gravels	NG 08_HOCI_21	High	Low	
	Celtic sea relict sandbanks	NG 08_G8	High	Low	
Lincs Belt	Subtidal coarse sediment	NG 05_A5.1	Mod	Mod	
	Subtidal sand	NG 05_A5.2	Mod	Mod	
	Subtidal mixed sediments	NG 05_A5.4	Mod	Mod	
	Peat and clay exposures	NG 05_HOCI_15	Low	Low	
	Subtidal sands and gravels	NG 05_HOCI_21	Low	Low	
North Norfolk Blue Mussel Beds (RA)	Moderate energy infralittoral rock	NG RA 01_A3.2	Low	Low	
	Blue mussel beds	NG RA 01_HOCI_1	High	High	
	Subtidal chalk	NG RA 01_HOCI_20	Low	Low	
	Subtidal sands and gravels	NG RA 01_HOCI_21	Low	Low	
Runswick Bay	High energy infralittoral rock	NG 11_A3.1	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.
	Moderate energy infralittoral	NG 11_A3.2	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence

	rock				increased to moderate.
	High energy circalittoral rock	NG 11_A4.1	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.
	Moderate energy circalittoral rock	NG 11_A4.2	Mod	Low	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.
	Subtidal coarse sediment	NG 11_A5.1	High	Low	
	Subtidal sand	NG 11_A5.2	High	Low	
	Subtidal mixed sediments	NG 11_A5.4	High	Low	
	Ocean quahog (<i>Arctica islandica</i>)	NG 11_SOCI_3	High	High	
Seahenge Peat and Clay (RA)	Intertidal sand and muddy sand	NG RA 07_A2.2	High	High	
	Subtidal sand	NG RA 07_A5.2	Low	Low	
	Peat and clay exposures	NG RA 07_HOCI_15	High	Mod	
	Subtidal sands and gravels	NG RA 07_HOCI_21	Low	Low	
	North Norfolk coast (Subtidal)	NG RA 07_G7	High	Low	
Seahorse Lagoon and Arnold's Marsh (RA)	Starlet sea anemone (<i>Nematostella vectensis</i>)	NG RA 02_SOCI_21	High	High	

5.1.8 Summary

- The evidence assessment presented here was based on the best available information.
- [Section 5.3](#) contains a list of new datasets expected later in the year or datasets that were not available to us at the time of the current evidence assessment due to confidentiality or accessibility issues
- The information from these datasets, and any other *new information should be incorporated into the assessments as and when they become available, and the assessment of confidence on the presence and extent of features updated following the agreed protocols, in order to improve the evidence base underpinning Marine Conservation Zone recommendations and designation*. Site selection assessment documents should be updated to incorporate the latest information from the evidence assessment and to reflect the increased knowledge and understanding of the features and sites
- Confidence assessments were performed for the presence and extent of 1,205 features within the 127 rMCZs. Assessments of high, moderate, low and no confidence for both the presence and extent of features were carried out in line with technical protocol E
- Of all features assessed in this analysis, 82% are within English territorial waters
- Analysis of results shows that, at the level of the Defra marine area, we have greater confidence in feature presence than in extent, with 41% (n=499) of assessments being high for presence against 16% (n=189) being high for extent
- In the analysis of all sites combined across all regional MCZ projects, a total of 1,205 features were assessed. We gave 498 (41%) features a high confidence score for presence and we also gave 189 (16%) of these a high confidence score for extent. We gave 245 (20%) features a score of moderate confidence for presence and 289 (24%) moderate confidence for extent. We gave 436 (36%) features low confidence for presence. We gave the majority of features, 680 (56%), low confidence for extent. We gave a score of no confidence for both presence and extent to less than 5% of the features.
- Our confidence in the presence and extent of features varies considerably. A large proportion of features receiving high presence and extent confidence scores are generally intertidal or shallow subtidal species or habitats, in particular around sites designated for other conservation legislation, such as Natura sites
- Confidence in the presence and extent of features is significantly greater for the inshore sites than it is for the offshore sites, with 42% of inshore assessments for presence being high compared to 25% for offshore sites. Not surprisingly, our results clearly show that we have greater confidence in the presence and extent of our intertidal features compared with those features permanently underneath the water
- In some cases, evidence collected from regional sources is incomplete and, as a consequence, features based solely on incomplete regional data are shown as low confidence in the current assessment. This is caused by a lack of underlying information to validate the information provided by stakeholders ([Annex 2](#)). Further information on some of the regionally sourced evidence will increase the level of confidence in the associated recommended features
- Whilst ideally we would wish to have high confidence on the presence and extent of proposed features for designation, this is not always possible as the levels of confidence and availability of the evidence underpinning the recommendations is variable. The scale and accuracy of the evidence required to support the decisions at different stages of identification, designation and management are expected to be different as different levels of information will be required.
- We recognise that the confidence on the evidence available will not be assessed in isolation, but considered alongside the conservation value of that feature, the risk of damage or decline if the feature is not designated and any socio-economic consequences of designation. However, any delays in the progression of sites due to lack of knowledge on evidence could increase the risk of

serious or irreversible damage to the feature. More information on risk and prioritisation can be found in Sections [6.1](#) and [6.2](#).

- The site selection assessment documents will need to be updated to incorporate the latest information from the evidence assessment and to reflect the increased knowledge and understanding of the features and sites.

5.2. Assessing the confidence in the condition of recommended Marine Conservation Zones

Advice to Defra

*JNCC and Natural England **advise** that the vulnerability assessments that were relied upon to develop the majority of draft conservation objectives provide a proxy indication of the likely condition and therefore are limited in their ability to provide confidence in actual condition.*

*For all but 19 features JNCC and Natural England **advise** that there is a low confidence in the assessment of condition. This was expected by JNCC and Natural England because the process was designed to use best available evidence, which for all but one feature relied upon assessments of vulnerability. Detailed evidence on the condition of species and habitats is sparse except, perhaps within existing designated sites.*

Only one feature has a high confidence score for condition - The Canyons in the Finding Sanctuary project area. This was also the only site for which there was direct evidence on condition (that was assessed in this process). Eighteen features have a moderate confidence score for condition. Of those 18, two features are in the offshore area and the remaining 16 are inshore (Table 27).

The confidence in the condition of only one feature was affected by the recommended changes to the conservation objective ([Section 4.2](#)), which resulted in an increase of confidence from low to moderate.

*Defra, JNCC and Natural England are working to improve confidence in feature condition. This is being achieved through verification surveys being undertaken in 2012 and through an additional data mining contract being undertaken by ABPmer (MB0116). JNCC and Natural England **advise** that this may provide additional evidence that could improve the confidence in feature condition.*

*Although a high or moderate level of confidence in condition is useful at the time of designation, JNCC and Natural England **advise** that low confidence in condition should not prevent features and sites being progressed to consultation and designation. Knowledge on condition will inevitably improve over time as further evidence is collated (although this is likely to take many years). JNCC and Natural England **advise** that any delays in the progression of sites due to lack of knowledge on condition is likely to have negative consequences for features while evidence is being gathered.*

Key messages

A low confidence in the assessment of condition was expected by JNCC and Natural England for the majority of features. This was due to the process being designed to use best available evidence, which for all but one feature relied upon assessments of vulnerability to inform condition. Detailed evidence on the condition of species and habitats is sparse except, perhaps within existing designated sites.

Although a high or moderate level of confidence in condition is useful at the time of designation, a low confidence in condition should not prevent features and sites being progressed to consultation and designation. Knowledge on condition will inevitably improve over time as further evidence is collated (although this is likely to take many years). Any delays in the progression of sites due to lack of knowledge on condition is likely to have negative consequences for features while evidence is being gathered.

5.2.1 Aims of this section

5.2.1 This section aims to provide a confidence assessment in the condition of the features put forward for protection in the final Marine Conservation Zone (MCZ) Project recommendations.

5.2.2 Introduction

5.2.2 This section provides our advice to Defra on the confidence levels in the condition of features in the recommended Marine Conservation Zones (rMCZs). The likely condition or ecological quality of the feature informs the conservation objective. JNCC and Natural England developed Conservation Objective Guidance (COG) for the regional MCZ projects on conservation objective development (Natural England & JNCC 2011a).

Background to assessing confidence in condition

- 5.2.3 This section assesses our confidence in feature condition (a feature's ecological state); it is not an assessment of the confidence we have in the conservation objective being correct. Defra, JNCC and Natural England are investigating options for additional reviews to evaluate whether the conservation objectives recommended are considered 'reasonably certain' or not. This evaluation is outside the scope of this advice document and will be carried out separately.
- 5.2.4 In June 2011, JNCC and Natural England reviewed the information provided in the regional MCZ projects' draft final recommendation reports. We held a joint workshop engaging the efforts of in-house industry and fishery advisors and marine ecologists to review all the information provided to us, which included draft feature vulnerability assessments and draft conservation objectives in some instances. JNCC and Natural England reviewed the regional MCZ projects' vulnerability assessments by cross checking against the activities layers provided to us to determine whether or not all the relevant pressures had been considered. JNCC and Natural England provided feedback to the regional MCZ projects regarding the pressures considered; in some instances vulnerability assessments were understandably incomplete or inappropriate pressures were used. Where this happened feedback was provided to the projects to help them complete the process appropriately, providing justifications for our advice.
- 5.2.5 For the fully offshore sites, beyond 12nm JNCC also reviewed the fishing activities of vessels over 15 metres within the site boundaries using the method described in [Annex 6](#) to determine exposure levels to associated pressures, this ensured consistency between sites. JNCC provided feedback to the regional MCZ projects with regard to what JNCC considered to be appropriate exposure levels, taking cumulative pressures into consideration using expert judgment and advised how vulnerability and conservation objectives might best be revised. JNCC also advised where it considered features should not be put forward for designation either because a conservation objective could not be supported for the feature or that it would be appropriate to progress the feature under the Natura designation.
- 5.2.6 For inshore sites and joint sites, JNCC and Natural England reviewed them, providing feedback on which pressures should be included if not already done so, based on the activities known to be occurring in the vicinity of features. The advice regarding mobile fishing gear was partly delayed for these sites because it was acknowledged that the information on inshore fishing provided by Fishermap interviews needed standardising to ensure consistency between MCZ regions (see [Section 4.2](#)). Natural England developed a method to assess exposure based on the information provided in the Fishermap interviews and vessel count data extracted from vessel monitoring systems (VMS). This method is provided in [Annex 6](#). The outputs created from this method were made available in a workshop held in January 2012 and were used to review the vulnerability assessments provided in the final recommendations. Any changes made to conservation objectives as a result of this process are described in [Section 4.2](#).

5.2.3 Methodology for assessing confidence in condition

5.2.7 JNCC and Natural England developed a protocol (protocol F) that outlines the process for assessing confidence in condition (Natural England & JNCC 2012f). The protocol sets out a staged

approach to assessment against a series of criteria that need to be fulfilled to improve the confidence in condition. The protocol outlines different methods dependent on whether the feature's condition was assessed by using direct evidence or by using the vulnerability assessment process, the latter of which applies to the vast majority of features.

- 5.2.8 Due to the limitations of the vulnerability assessment, a number of staged criteria need to be met (**Figure 10**) to move confidence from low to moderate. One of these criteria is that there is moderate or high confidence in the feature's extent. **Table 18** to **Table 25** in **Section 5.1** show the confidence in presence and extent for features put forward in the final recommendation. The confidence in feature extent provided in these tables is an important criterion used in the assessment of confidence in feature condition, following the process outlined in protocol F.
- 5.2.9 The assessment of confidence using the vulnerability assessment approach is inherently precautionary; this is due to the lack of direct evidence on condition and therefore being essentially a risk based process. The detail on how precaution was built into the assessment process is explained in protocol F (Natural England & JNCC 2012f).
- 5.2.10 For sites proposed in the Balanced Seas region which include features defined through the Regional Environmental Characterisation (REC) work, Natural England have assessed in this section only the confidence in condition of features proposed by the RSG for designation. Therefore all back-translated features, which are stated as 'not proposed' in either the Balanced Seas final or amendments reports, have been removed from this assessment.

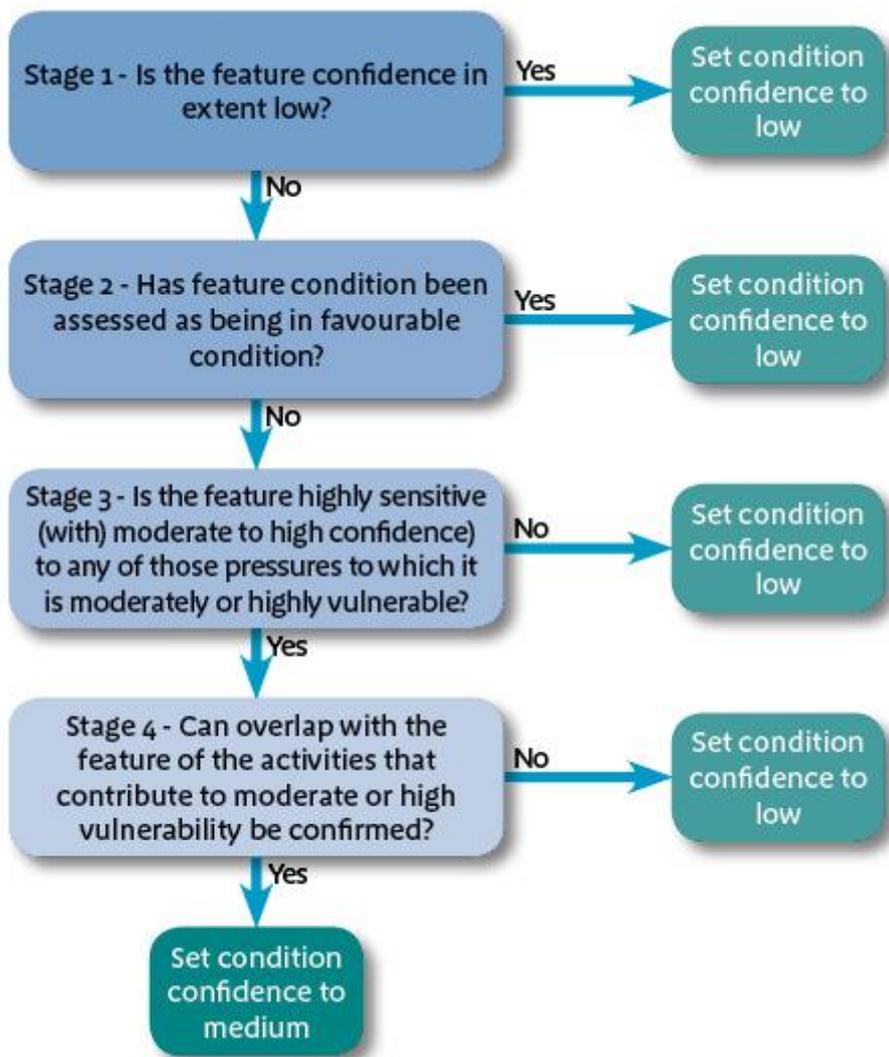


Figure 10 Flow diagram summarising the decision process for assessing feature condition using evidence from the vulnerability assessment process

5.2.4 Results

5.2.11 Unless otherwise stated, all references to feature and site condition relate to those provided in the MCZ regional project final recommendation reports. Where appropriate, JNCC and Natural England indicate where our advice regarding the conservation objective or the information on which it is based, differs to that provided in the final recommendation reports ([Section 4.2](#)).

5.2.12 The results of the confidence assessments are summarised in **Table 27** (for inshore) with detailed results presented in [Annex 7](#).

5.2.13 Inshore features that were identified as having a moderate confidence in condition were checked with the lead regional advisers to ensure that the assessment corresponded with local knowledge. This did result in some features having their confidence level lowered. The confidence in condition of all features in the offshore area and those located in joint rMCZs led by JNCC, have also been quality assured internally.

5.2.5 Results for offshore confidence

5.2.14 Following protocol F, in cases where JNCC has low or no confidence in the extent ([Section 5.1](#)) of features with recover objectives, JNCC has assigned low confidence in condition (Natural England

& JNCC 2012f). This approach, described in protocol F, accounts for the fact that it cannot be known if an activity is happening over all or some of a feature where there is uncertainty in where the feature lies. The following features in the offshore area beyond 12 nm fall into this category: mud habitats in deep water and ocean quahog in the South Rigg rMCZ of the Irish Sea Conservation Zones (ISCZ) project area.

5.2.15 For these features, JNCC is relatively confident they are highly sensitive to the following pressures: removal of target and non-target species, shallow abrasion and penetration and/or disturbance of the seabed. As a result, JNCC **advises** recover objectives because best available information indicates the activities and associated pressures are occurring over the locations of the features. However, the extents of the features are not known and so they may not actually be where the available information indicates they are located (indicated by low confidence in extent, [Section 5.1](#)) and so confidence in the exposure assessment would be necessarily low.

5.2.16 The mud habitats in deep water feature in Mud Hole (within the Irish Sea Conservation Zone (ISCZ) project area) has been assessed using the vulnerability assessment process and JNCC is moderately to highly confident it is highly sensitive to the pressures, resulting in the recover objective that has been set, and moderately confident in the extent. However, on examining the Vessel Monitoring System (VMS) data in Geographic Information System (GIS), JNCC cannot confirm that the activities associated with those pressures (benthic trawling) actually overlap with the extent of the feature, as elaborated below:

- In the final recommendation, the mud habitats in deep water was assessed to be moderately to highly vulnerable to the following pressures associated with over-15m vessel bottom trawling, targeting *Nephrops norvegicus*: removal of target and non-target species and shallow and surface abrasion. According to the MB0102 sensitivity matrix (Tillin, Hull and Tyler-Walters 2010), JNCC can have high confidence that the feature is highly sensitive to the removal of non-target species and moderately confident that the feature is highly sensitive to shallow abrasion. The evidence review indicates JNCC has moderate confidence in the extent of the feature at this site. However, an examination of the spatial extent of the feature and the spatial resolution of the VMS data shows it is of insufficient spatial resolution to confirm that bottom trawling is occurring over the feature. Our confidence in this feature's condition therefore remains low, according to the criteria outlined in protocol F. However, two caveats should be added:
 - Whilst JNCC cannot confirm that the bottom trawling targeting *N. norvegicus* is occurring over the extent of the feature, the VMS data strongly indicates that it does. A VMS cell recording over 2,000 hours (aggregated over 2006–2009) of *N. norvegicus* fishing effort (which, relatively speaking, is very high) overlaps significantly with the suspected extent of the feature, with only a very small proportion of the cell lying outside the feature boundary. Such high fishing effort in combination with significant VMS cell overlap is a strong indication that the fishing is occurring over the feature
 - There is additional support for the assessment of this feature's condition provided in scientific literature. For example, Hinz *et al.* (2009) draws conclusions regarding the impacts of chronic *N. norvegicus* trawling in this area of the Irish Sea. Two of the 20 study areas lie inside the feature boundary. The conclusions drawn are that “chronic otter trawling had a significant, negative effect on benthic infauna abundance, biomass, and species richness. Benthic epifauna abundance and species richness also showed a significant, negative response, while no such effect was evident for epibenthic biomass. Furthermore, chronic trawl disturbance led to clear changes in community composition of benthic infauna and epifauna. The results presented indicate that otter-trawl impacts are cumulative and can lead to profound changes in benthic communities, which may have far-reaching implications for the integrity of marine food webs” (Hinz, Prieto and Kaiser 2009). Whilst JNCC does not

consider this to be direct evidence of feature condition, it does lend support to the assessment of condition.

5.2.17 There are three features about which we have moderate confidence in condition in the offshore area; they all lie fully offshore: mud habitats in deep water in Celtic Deep and cold water coral reefs in The Canyons in the Finding Sanctuary project area, and mud habitats in deep water in Slieve na Griddle in the ISCZ project area. For both of the mud habitats in deep water, JNCC is relatively confident that they are highly sensitive to the pressures, resulting in the recover objective which has been set through the vulnerability assessment process. JNCC is also moderately confident in their extent and, on examination in GIS, can confirm overlap of the activity associated with the relevant pressures in respect of the mud habitats in deep water:

- Celtic Deep's mud habitats in deep water feature has been assessed to be moderately to highly vulnerable to shallow abrasion, penetration and/or disturbance of seabed and removal of non-target species associated with *N. norvegicus* trawling. According to the MB0102 sensitivity matrix (Tillin, Hull and Tyler-Walters 2010), JNCC can be moderately to highly confident that the feature is highly sensitive to these pressures. According to the evidence review, JNCC has moderate confidence in the extent of the feature. An examination of the VMS data in GIS confirms overlap of the relevant activity, with at least one VMS cell recording *N. norvegicus* trawling lying entirely within the feature boundary. All these factors, in combination, satisfy the criteria for moderate confidence in feature condition, as outlined in protocol F.
- Slieve na Griddle's mud habitats in deep water feature has been assessed to be moderately to highly vulnerable to the removal of target and non-target species and shallow abrasion. According to the MB0102 sensitivity matrix (Tillin, Hull and Tyler-Walters 2010), the feature is highly sensitive to removal of non-target species (with high confidence) and shallow abrasion (with moderate confidence). According to the evidence review, JNCC is also moderately confident in the extent of the feature. A further examination of the VMS data in GIS confirms overlap of the *N. norvegicus* fishing over the feature. At least one cell lies entirely within the feature boundary and contains over 1,700 hours (aggregated over 2006–2009) of *N. norvegicus* fishing effort. In combination, these factors satisfy the criteria for moderate confidence in feature condition, as outlined in protocol F.

5.2.18 In the offshore area, JNCC has a high confidence in the condition of the cold water coral reefs feature in The Canyons. The condition of this feature was based on an examination of the information gathered during a JNCC-commissioned survey of the area (Mapping European Seabed Habitats project cruise 01-07-01) which, at the time of the survey, was being investigated as an Area of Search under the Natura 2000 site selection process. The coral reef feature was not progressed to a candidate Special Area of Conservation (cSAC) designation because, in JNCC's opinion, there were better examples elsewhere. The information gathered during the survey shows evidence of widespread, severe damage to the feature.

5.2.19 Section 3A in protocol F outlines a process for assessing confidence in feature condition where direct evidence has been used (Natural England & JNCC 2012f). The condition of the cold water coral reefs feature in The Canyons was assessed using direct evidence from survey, so this process is followed to assess confidence. **Table 26** below is taken from protocol F and shows how four criteria, relating to the direct evidence, can be used to assess confidence in condition. By assessing these four criteria: data source and QA procedure, age of data, scale of damage and severity of damage, an overall confidence score for feature condition can be calculated.

5.2.20 In the case of the cold water coral reefs in The Canyons, the survey data indicates the total confidence score in condition is 11, (see the green cells highlighted in **Table 26**), confidence has been calculated as follows:

- widespread damage (3 points), &
- severe (3 points) damage; &
- data is less than 12 years old (2 points); &
- appropriately quality assured from a relatively reliable source (3 points).

5.2.21 According to protocol F, a confidence score of 11 indicates high confidence in condition (Natural England & JNCC 2012f). However, a further criterion must be satisfied in order to be able to advise high confidence in this feature's condition. The confidence in the feature's extent must also be high. According to the evidence assessment of this feature, provided in [Section 5.1](#), the confidence in this feature's extent is high. JNCC therefore advises confidence in The Canyons cold water coral reefs assessment of unfavourable condition is high.

Table 26 Criteria for assessing scientific confidence of feature condition derived using evidence of damage

Note: The overall score is given by the sum of the individual scores attributed to each of the four criteria. (This method should not be applied in cases where the scientific confidence of feature extent is ‘low’). High confidence 10–12, Moderate confidence 7–9, Low confidence 4–6. Green cells highlight assessment for cold water coral reefs in The Canyons.

Criteria								
Evidence of damage				Reliability				
Severity of damage		Scale of damage (representativity)		Age of data		Data source and QA procedure		
Description	Score	Description	Score	Description	Score	Description	Score	
High confidence <i>(can only apply in instances where confidence in feature extent is high)</i>	Evidence of severe damage, resulting in partial loss of feature or long-term damage	3	Evidence of widespread/broad-scale damage/disturbance across the feature	3	< 6 years old	3	Appropriate internal (and/or external) QA procedures in place during data collection and post processing, and are well documented	3
Moderate confidence <i>(usually applies in instances where confidence in feature extent is moderate or high)</i>	Evidence of damage/disturbance Feature may take years to recover	2	Evidence of patchy/localised damage/disturbance across the feature	2	6–12 years old	2	Some internal (or external) QA procedures in place during data collection and possibly post processing. Generally, QA procedures applied on a more ad hoc basis, and not necessarily well documented or standardized	2

<p>Low confidence</p>	<p>Evidence of minor damage/disturbance Feature may take months to recover</p>	<p>1</p>	<p>Evidence of localised/small-scale damage/disturbance restricted to a proportion of the feature</p>	<p>1</p>	<p>> 12 years old</p>	<p>1</p>	<p>No QA procedures in place, and ad hoc QA unlikely</p>	<p>1</p>
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- 5.2.22 As indicated in the review of conservation objectives in [Section 4.2](#), JNCC is unable to comment as to the most appropriate conservation objective for the undulate ray feature being put forward in the final recommendations for the Offshore Overfalls site of the Balanced Seas project area. However, JNCC **advises** low confidence would accompany any assessment of feature condition based on a vulnerability assessment because confidence in feature extent is low.
- 5.2.23 In the ISCZ area, low energy circalittoral rock is being put forward for designation in the final recommendation with a recover objective. However, JNCC **advises** it is highly confident in the presence and extent of this feature as part of the Pisces Reef cSAC. Part of the data acquisition for the MCZ Project process has identified areas outside the current possible Special Area of Conservation (pSAC) boundary that may be Annex 1 reef. These areas are being investigated and will be considered for inclusion within the Pisces Reef complex. JNCC therefore **advises** that this feature not be listed for designation within Slieve na Griddle. This advice is provided in the review of conservation objectives in [Section 4.2](#).

As indicated in the review of conservation objectives, JNCC **advises** that the *Ostrea edulis* species and habitat features being put forward in the recommendations for the Inner Bank site of the Balanced Seas project area are not listed for designation, because JNCC has no confidence in the presence of either the species or habitat within that site. Further details are provided in [Section 4.2](#).

5.2.6 Results for inshore confidence

- 5.2.24 **Table 27** lists the 16 features in the inshore area where Natural England has moderate confidence in condition. All of these features are in the Balanced Seas, ISCZ and Finding Sanctuary project areas, and have been identified through the vulnerability assessment process. Two of these features are located in joint sites: Cape Bank (FS 36) and West of Walney (ISCZ 02).
- 5.2.25 One feature was identified through the recommended changes in conservation objectives as having moderate confidence in condition (intertidal mud within Castle Grounds rMCZ in the Net Gain region). However, the feature is within Scarborough Harbour and has been identified as not being suitable by Natural England ([Section 4.2](#)) because it is a very small area, is dredged for maintenance and is heavily used for mooring purposes. The area makes up a very small part of the overall Castle Grounds rMCZ.
- 5.2.26 Of the remaining 15 features identified, eight are for *Palinurus elephas* within the Finding Sanctuary project area. A general approach of applying a recover objective to all *P. elephas* features was undertaken due to the decline in its population across the south west (Goñi and Latrouite 2005). The four listed Isles of Scilly rMCZs (Cape Bank rMCZ, Lundy rMCZ, Skerries Bank and Surrounds rMCZ, and the Manacles rMCZ) all are subject to potting (as well as netting on some sites). *Palinurus elephas* is highly sensitive to removal as a target species (with moderate confidence assigned for this sensitivity). Regional advisers for all sites confirmed the presence of this fishing activity, which was identified in the GIS, and supported the moderate confidence assessments.
- 5.2.27 In the Finding Sanctuary project area, the seagrass bed feature within Studland rMCZ and Torbay rMCZ are assessed as having moderate confidence in condition. For the Studland rMCZ, this is due to the known presence of recreational anchoring within the feature. The MB0102 sensitivity matrix shows the feature as being highly sensitive with high confidence to shallow abrasion/penetration (Tillin, Hull and Tyler-Walters 2010). It is acknowledged that there are ongoing site-specific studies of the actual impacts of anchoring. The results of these studies (as well as other ongoing surveys) will help to inform the condition of the feature. Within Torbay rMCZ, in addition to some anchoring, trawling has also been identified as having occurred over part of the feature (sea grass is distributed

in patches within the rMCZ). Within Torbay Bay, a voluntary agreement has been established to limit trawling that is supported by fishermen, managers and conservationists. However, trawling is considered to have occurred within the past five years on some of the seagrass beds and therefore part of the feature is likely to still be recovering from the pressure. An assessment of moderate confidence in the condition is supported by the regional adviser.

- 5.2.28 The *Eunicella verrucosa* feature within the Chesil Beach and Stennis Ledges rMCZ is assessed as having moderate confidence in condition. *Eunicella verrucosa* is identified in the MB0102 sensitivity assessment matrix as being highly sensitive with moderate confidence to shallow abrasion/penetration (Tillin, Hull and Tyler-Walters 2010). Within the rMCZ, part of the site, coinciding with where the majority of the *E. verrucosa* records are identified, extends to deeper water. Scallop dredging was identified as having occurred over this area in the past. Natural England supports the assessment of moderate confidence in condition for this feature.
- 5.2.29 Within Hythe Bay rMCZ the condition of the mud habitats in deep water feature is assessed as having moderate confidence due to the presence of trawling. This feature, although described as 'deep water', is unusual because it occurs in shallow water in Hythe Bay and is sensitive to abrasion as a result of demersal trawling. Natural England supports the assessment of moderate confidence in condition.
- 5.2.30 There are two features within sites around the Isle of Wight that have moderate confidence in condition. Within Yarmouth to Cowes, peat and clay exposures are known to occur within the Yar estuary and are highly sensitive with high confidence to physical change. Within Norris to Ryde there is evidence to support the occurrence of oyster dredging and occasional trawling over the seagrass bed feature. Natural England supports the moderate confidence assessment for these features.
- 5.2.31 West of Walney with the associated mud habitats in deep water feature has moderate confidence in condition. This feature is known to be subject to otter trawling targeting both *N. norvegicus* and flat fish. However, within the co-location zone of the rMCZ mobile fishing gear has been restricted within the last five years and the habitat will be subject to limited recovery. Within the remainder of the site (rMCZ2) these activities remain and the confidence assessment is applicable. Natural England supports the assessment of moderate confidence in condition for this feature.

5.2.7 Geological and geomorphological features

- 5.2.32 For all geological and geomorphological features the default conservation objective is set to 'maintain', and confidence for such a level for objectives is moderate (all active-marine processes geomorphological features) to high (relict geological and geomorphological features).
- 5.2.33 Confidence in the presence of the features is high, owing to the abiotic nature of determining their existence. The features are predominantly identified on a morphological basis (derived from bathymetry), and confidence in morphology of the seabed is high.
- 5.2.34 Relict marine geological and geomorphological features are typically large-scale, and the processes that created them are no longer operating, and so they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. Such features include granite outcrop ("rock reef" like Haig Fras), and glacial erosion and deposition features like the Channel Outbursts and Irish Sea drumlin fields. These structures are in a steady natural decline because they are undergoing natural erosion and covering by sediment and cannot reform if damaged, but owing to their large size, they are unlikely to be affected by anthropogenic activities.

5.2.35 *Active* marine geomorphological features such as sandwaves, however, are presently dynamic systems that can decline and later recover. However, these features are also large-scale sea-bed sediment forms robust enough not to be significantly affected by small-scale anthropogenic interventions and the measures in place to protect biological features in the same areas will more than adequately protect them, and so a moderate confidence in the 'maintain' conservation objective is sound.

5.2.8 Discussion

5.2.36 JNCC and Natural England **advise** that the vulnerability assessments that were relied upon to develop the majority of draft conservation objectives provide a proxy indication of the likely condition and therefore are limited in their ability to provide confidence in actual condition.

5.2.37 For all but 19 features JNCC and Natural England **advise** that there is a low confidence in the assessment of condition. This was expected by JNCC and Natural England because the process was designed to use best available evidence, which for all but one feature relied upon assessments of vulnerability. Detailed evidence on the condition of species and habitats is sparse except, perhaps within existing designated sites.

5.2.38 JNCC and Natural England **advise** that the overall confidence result is due to inherent uncertainties in the vulnerability assessment process described in protocol F, resulting in a 'low' confidence score. For instance, JNCC and Natural England has necessarily low confidence in features which have been given a maintain objective using a vulnerability assessment, primarily because historical activities cannot be taken into consideration in the vulnerability assessment process; it therefore provides an assessment of vulnerability only for a snapshot in time (Natural England & JNCC 2012f). Confidence could be improved by increasing our knowledge of impacts of activities on marine environment as well as enhancing our understanding of natural change in features.

5.2.39 Generally speaking, low confidence in condition has been assigned to those features which have been given a recover objective using the vulnerability assessment process partly because JNCC and Natural England do not have strong confidence that they are highly sensitive to the pressures which resulted in the recover objective (pressures to which they have been assessed to be moderately to highly vulnerable). JNCC and Natural England have low confidence in feature condition in these instances because it is recognised that the evidence underpinning the sensitivity score provided in the MB0102 matrix is relatively limited. Therefore, there is a possibility that the feature is not highly sensitive to the pressures which have resulted in the recover objective being set. If the feature were damaged by or deteriorated due to pressures associated with activities, it may recover more quickly or may be more robust against damage or deterioration than current information indicates.

5.2.40 Defra, JNCC and Natural England are working to improve confidence in feature condition. This is being achieved through verification surveys being undertaken in 2012 and through an additional data mining contract being undertaken by ABPmer (MB0116). JNCC and Natural England **advise** that these may provide additional evidence that could improve the confidence in feature condition. [Section 5.3](#) lists additional data that may also provide additional evidence on feature condition.

5.2.41 Although a high or moderate level of confidence in condition is useful at the time of designation, JNCC and Natural England **advise** that low confidence in condition should not prevent features and sites being progressed to consultation and designation. Knowledge on condition will inevitably improve over time as further evidence is collated (although this will take many years). JNCC and Natural England **advise** that delays in the designation of sites due to lack of knowledge on condition is likely to have negative consequences for features while evidence is being gathered.

5.2.9 Conclusion

- 5.2.42 Only one feature has a high confidence score for condition - The Canyons in the Finding Sanctuary project area. This was also the only site for which there was direct evidence on condition (that was assessed in this process).
- 5.2.43 Eighteen features have a moderate confidence score for condition. Of those 18, two features are in the offshore area and the remaining 16 are inshore (**Table 27**).
- 5.2.44 The confidence in the condition of only one feature was affected by the recommended changes to the conservation objective ([Section 4.2](#)), which resulted in an increase of confidence from low to moderate.

Table 27 List of all inshore features with moderate confidence in the conservation objective

Regional MCZ project area	Site name	Feature	Justification	Regional lead advisor quality assurance (QA)
Balanced Seas	Norris to Ryde BS 19	Seagrass beds	Manual assessment – based on fishing exposure	There is some trawling and oyster dredging which may well overlap, agrees with assessment
Balanced Seas	Yarmouth to Cowes BS 23	Peat and clay exposures	Manual assessment – recreational pressures	Agrees with assessment, supports moderate confidence
Balanced Seas	Hythe Bay BS 26	Mud habitats in deep water	Manual assessment – removal target species and shallow abrasion (demersal fishing)	Agrees with assessment, supports moderate confidence
Finding Sanctuary	Studland Bay FS 15	Seagrass beds	Manual assessment – UK Hydrographic Office data showed unrestricted anchoring in seagrass bed extent	Anchoring is known to occur within seagrass beds from recreational vessels, supports moderate confidence
Finding Sanctuary	Chesil Beach and Stennis Ledges FS 19	Pink sea fan <i>Eunicella verrucosa</i>	Manual assessment – high sensitivity to benthic trawling pressures, and moderate to high confidence in activity occurring, plus evidence of activity occurring	Scallop dredging is known to have occurred over part of the MCZ in the past, supports moderate confidence
Finding Sanctuary	Torbay FS 22	Seagrass beds	Manual assessment – demersal trawling through some parts of seagrass beds (according fisheries intensity information – but this is variable)	Voluntary no trawling over seagrass agreement is in place, although there has been trawling within past five years, supports moderate confidence

Finding Sanctuary	Skerries Bank and Surrounds FS 24	Spiny lobster <i>Palinurus elephas</i>	Manual assessment – high potting pressure	Agrees with assessment, supports moderate confidence
Finding Sanctuary	The Manacles FS 32	Spiny lobster <i>Palinurus elephas</i>	Manual assessment – fishing pressure (pots and nets)	Agrees with assessment, supports moderate confidence
Finding Sanctuary	Isles of Scilly – Hanjague to Deep Ledge FS 35f	Spiny lobster <i>Palinurus elephas</i>	Manual assessment – high pressure from potting and netting around Isles of Scilly	Agrees with assessment, supports moderate confidence
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls FS 35h	Spiny lobster <i>Palinurus elephas</i>	Manual assessment – high pressure from potting and netting around Isles of Scilly	Agrees with assessment, supports moderate confidence
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge FS 35j	Spiny lobster <i>Palinurus elephas</i>	Manual assessment – high pressure from potting and netting around Isles of Scilly	Agrees with assessment, supports moderate confidence

Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge FS 35k	Spiny lobster <i>Palinurus elephas</i>	Manual assessment – high pressure from potting and netting around Isles of Scilly	Agrees with assessment, supports moderate confidence
Finding Sanctuary	Cape Bank FS 36	Spiny lobster <i>Palinurus elephas</i>	Manual assessment – high pressure from potting and netting	Agrees with assessment, supports moderate confidence
Finding Sanctuary	Lundy FS 41	Spiny lobster <i>Palinurus elephas</i>	Manual assessment – high pressure from potting and netting around Lundy	No netting around Lundy; however, potting does catch crawfish as by-catch, supports moderate confidence
ISCZ	West of Walney ISCZ 02	Mud habitats in deep water	Manual assessment – high pressure from mobile fishing gear	Agrees with assessment, supports moderate confidence
Feature changed to moderate confidence as a result of Natural England recommended changes in conservation objective				
Net Gain	Castle Ground NG 10	Intertidal mud (A2.3)	Feedback shows that navigational dredging occurs over the feature, but unable to find the pressure in the geographic information (to assess exposure)	Agrees with assessment, although does not agree that the feature should be designated because it is small area inside Scarborough Harbour (Section 4.2)

5.3 Inventory of data sources which will contribute to future evidence assessment work

Advice to Defra

*The evidence assessment was based on a wide number and range of national and regionally collected datasets and constituted the best available evidence for assessing feature presence and extent at the time of the assessment ([Section 5.1](#)). The data listed here are expected to contribute to our knowledge and understanding of the features within each site and to consolidate the evidence base for the presence and extent of features put forward for designation in recommended Marine Conservation Zones (rMCZs). JNCC and Natural England **advise** that the information from the additional datasets identified here, and additional data sources identified in the Defra contract MB0116 entitled 'In-depth review of the ecological evidence supporting the recommended Marine Conservation Zones' should be incorporated into the evidence assessment in the future. Where possible, we **advise** that the additional datasets should be used to update the evidence assessment for inclusion in the formal consultation documentation.*

*Further surveys will be required in the future in order to establish further baseline data for rMCZs, for monitoring purposes and to inform their future management. We **advise** that both the private and the public sectors should be made aware of the need to develop and maintain sound evidence bases for effective planning and management of Marine Protected Areas (MPAs). This will facilitate data collection both opportunistically and through targeted studies/surveys.*

Key messages

The evidence assessment ([Section 5.1](#)) was based on a wide number and range of national and regionally collected datasets and constituted the best available evidence for assessing feature presence and extent at the time of the assessment. Sites where the evidence assessment indicated relatively low confidence have been targeted for work to improve the evidence base. JNCC, Natural England and partner organisations have been working on a survey programme for the data collection of additional evidence to support the designation of features/sites.

The data listed here are expected to contribute to our current knowledge and understanding of the features at each site and to consolidate the evidence base for the features recommended for designation in rMCZs.

5.3.1 Aims of this section

5.3.1. The aim of this section is to identify new and recent surveys, as well as provide an estimated timeline for when the analysed data will be available. It utilises the results of the evidence assessment ([Section 5.1](#)) to direct work to improve the evidence base for the presence and extent of features recommended for designation in rMCZs. This section also describes ongoing data mining work and lists datasets that were not available at the time of the evidence assessment ([Section 5.1](#)).

5.3.2 Introduction

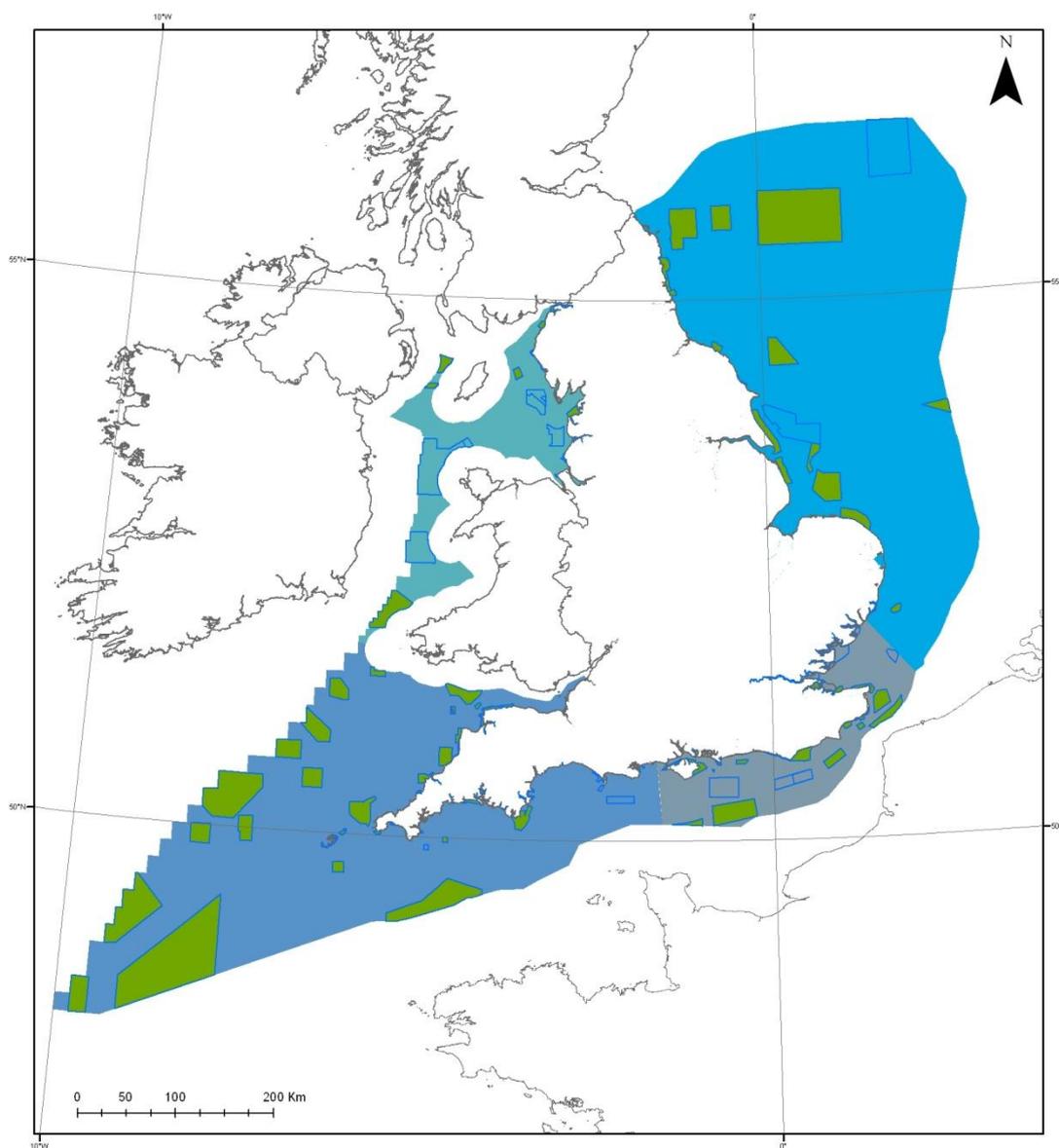
5.3.2. The data used for our assessment of confidence in presence and extent of features (known as the evidence assessment; protocol E (Natural England & JNCC 2012e)) described in [Section 5.1](#) were those identified by the regional MCZ projects, as well as additional datasets held by JNCC and Natural England at the time of the assessment. While the evidence assessment was being

conducted, the results were fed into the planning of surveys to collect additional data at rMCZs where confidence in feature presence/extent is relatively low. This new evidence collection is ongoing and is being carried out in addition to other survey and monitoring work being conducted by JNCC, Natural England and partners such as Cefas and the Environment Agency to inform other Defra priorities such as Natura 2000 site identification and condition monitoring and the Water Framework Directive monitoring.

- 5.3.3. JNCC and Natural England have been working with Defra, Cefas and the Environment Agency on the prioritisation of sites for further data collection. During 2011 and from early 2012 onwards, JNCC has been working on a project for the data mining and data collection of additional evidence to support the designation of sites, working in particular with Cefas, to survey sites located within offshore waters. This work was completed through the Partnership Agreement between Cefas and JNCC which enabled swift planning and execution of these surveys. In addition, Cefas have been leading on tendering external survey contracts for Defra contract MB0120 in partnership with JNCC, Natural England and the Environment Agency. This survey work happened in February and March 2012 and therefore some surveys were underway during the evidence assessment. In other cases surveys were complete, but the data had not yet been analysed. Therefore, it was not possible to include all these data in the evidence assessment. The work on further data collection and surveys is continuing throughout 2012.

5.3.3 Data sources

- 5.3.4. Data sets that we are aware of and that were not used in the evidence assessments are listed in **Table 28** and **Table 29**. The tables are not meant to be a comprehensive list of all data sources for the marine area because JNCC and Natural England have been made aware of further data that were not available to the MCZ Project. **Figure 11** shows the rMCZs for which further data are expected.
- 5.3.5. Defra has commissioned ABPmer to undertake an in-depth review of the evidence base for rMCZs (Defra project MB0116). The aims of that project are to build on and extend the evidence-specific work of the regional MCZ projects, the results of which will be used to support the designation of MCZs. This will include a literature review and collation of raw data currently not available to JNCC and Natural England.



Legend

- Recommended MCZs for which further data are expected
- Recommended MCZs/Reference Areas
- Net Gain
- Balanced Seas
- Finding Sanctuary
- Irish Sea Conservation Zones

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Figure 11 Regional MCZ project areas and rMCZs for which further data are expected to become available in the coming months

5.3.4 Summary

5.3.6. Data listed in **Table 28** and **Table 29** and additional data sources identified by the Defra contract MB0116 entitled ‘In-depth review of the ecological evidence supporting the recommended Marine Conservation Zones’ will need to be incorporated into the evidence assessment to improve our

confidence in the levels of evidence underpinning regional MCZ project recommendations, particularly in the case of those sites for which we have relatively low confidence in feature presence and/or extent. Where possible this information will be used to update the evidence assessment for inclusion in the formal consultation documentation.

- 5.3.7. Further surveys will be required in the future in order to establish baseline conditions, to monitor features in sites and to inform their future management. Both the private and the public sectors should be made aware of the need to develop and maintain a sound evidence base for planning and managing marine protected areas. This will facilitate data collection both opportunistically and through targeted studies/surveys.
- 5.3.8. The availability of new data will increase the level of confidence in the presence and extent of features and will allow us to gain a better understanding of the ecology of those features as well as an indication of their condition. There may be some cases when the information on the extent of the feature available through the new surveys will differ from information previously available. In such cases the site selection assessment documents and network statistics should be adjusted to reflect the changes. In cases where the new information from surveys indicates that a feature is no longer present at a site or the habitat has been incorrectly classified, then JNCC and Natural England will need to agree an approach with Defra as to the best way forward to deal with such a development.

Table 28 Datasets not used in the evidence assessment that JNCC and Natural England are aware of and that overlap with offshore rMCZs

Note: The table includes data which have been collected recently, are currently being collected or are planned for collection soon.

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code (RA= reference area)	Date of survey	Reasons why data are currently absent from MCZ advice	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
Net Gain									
Cefas Endeavour – IDRBNR and HHW	Part of joint inshore/offshore Special Area of Conservation (SAC) survey for IDRBNR candidate SAC (cSAC) – survey programme still ongoing	Wash Approach	NG 04	Jun-11	Survey not yet completed	JNCC/Natural England/Cefas	Grabs, Multibeam, Sidescan, Still photographs, Sub bottom profiling	Species, Habitat	Presence and Extent of features
Humber Guardian	Part of joint inshore/offshore SAC survey for IDRBNR cSAC – survey programme still ongoing	Wash Approach	NG 04		Survey not yet completed	Environment Agency (EA) on behalf of Cefas			
N/A	Data gathered under EIA process	Wash Approach	NG 04	N/A	Industry data: permissions require confirmation prior to use	Centrica/RPS	Race Bank Windfarm site survey	Acoustic, Species, Habitat	Presence and Extent of features
CEND 11/11	Part of joint inshore/offshore SAC survey for IDRBNR cSAC – survey programme still ongoing	Silver Pit	NG 06	Jun-11	Survey completed but data not yet processed/in usable form	JNCC/Natural England/Cefas	Grabs, Multibeam, Sidescan, Seabed imagery, Sub bottom profiling	Species, Habitat, Acoustic	Presence and Extent of features
CEND 11c/11	Opportunistic data gathered by Cefas; further data gathering is continuing in 2012	Markham's Triangle	NG 07	Jul-11	Survey completed but data not yet processed/in usable form	Cefas	Grabs	Species, Habitat	Presence and Extent of features
CEND 4/12	MCZ site verification survey	Compass Rose	NG 12	Feb-12	Survey completed but data not yet processed/in usable form	Cefas/Defra	Grabs, Multibeam, Seabed imagery	Species, Habitat, Acoustic	Presence and Extent of features
CEND 4/12	MCZ site verification survey	Farnes East	NG 14	Feb-12	Survey completed but data not yet processed/in usable form	Cefas/Defra	Grabs, Multibeam, Camera	Species, Habitat	Presence and Extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code (RA= reference area)	Date of survey	Reasons why data are currently absent from MCZ advice	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
CEND 11c/11	Opportunistic data gathered by Cefas	Farnes East	NG 14	Jul-11	Survey completed but data not yet processed/in usable form	Cefas	Grabs	Species, Habitat	Presence and Extent of features
CEND 4/12	MCZ site verification survey	Rock Unique	NG 15	Feb-12	Survey completed but data not yet processed/in usable form	Cefas/Defra	Grabs, Camera	Species, Habitat	Presence and Extent of features
MCA HI 1153	Data from MCA CHP surveys: this MCA backscatter has been processed by Cefas under the JNCC/Cefas Partnership and was complete at the end of FY 11/12	Rock Unique	NG 15	N/A	Processed data available (post evidence assessment)	Cefas/JNCC	Multibeam backscatter processed by Cefas and habitat map developed	Habitat map	Presence and Extent of features
MCA HI 1153	Data from MCA CHP surveys: this MCA backscatter has been processed by Cefas under the JNCC/Cefas Partnership and was complete at the end of FY 11/12	Swallow Sand	NG 16	May-04	Processed data available (post evidence assessment)	Cefas/JNCC	Slight overlap with CHP multibeam data	Acoustic	Presence and Extent of features
CEND 8/12a	MCZ site verification survey planned	Markham's Triangle	NG 07	May-12	Survey not yet conducted/complete	Cefas/JNCC/Defra	Multibeam, Grabs		Presence and Extent of features
CEND 8/12a	MCZ site verification survey planned	Fulmar	NG 17	May-12	Survey not yet conducted/complete	Cefas/JNCC/Defra	Multibeam, Grabs, Seabed imagery		Presence and Extent of features
CEND 8/12a	MCZ site verification survey planned	Swallow Sand	NG 16	May-12	Survey not yet conducted/complete	Cefas/JNCC/Defra	Multibeam, Grabs to confirm		Presence and Extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code (RA= reference area)	Date of survey	Reasons why data are currently absent from MCZ advice	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
CEND 8/12a or b	MCZ site verification survey planned	Holderness Offshore	NG 09	May-12	Survey not yet conducted/complete	Cefas/JNCC/Defra			Presence and Extent of features
Balanced Seas									
CEND 13/11	Opportunistic data gathered by Cefas	Offshore Foreland	BS 09	2011	Survey completed but data not yet processed/in usable form	Cefas	Seabed imagery	Species, Habitat	Presence and Extent of features
N/A	Opportunistic data gathered by Cefas	Offshore Foreland	BS 09	N/A	Processed data available (post evidence assessment)	Cefas/BGS	Multibeam backscatter processed by Cefas/BGS and substrate maps developed	Habitat	Presence and Extent of features
CEND 3/12 AB	MCZ site verification survey	Offshore Brighton	BS 14	Feb-12	Survey completed but data not yet processed/in usable form	JNCC/Cefas	Grabs, Seabed imagery	Species, Habitat	Presence and Extent of features
CEND 3/12 AB	MCZ site verification survey	Wight-Barfleur Extension	BS 21	Feb-12	Survey completed but data not yet processed/in usable form	JNCC/Cefas	Multibeam, Seabed imagery	Species, Habitat, Acoustic	Presence and Extent of features
Finding Sanctuary									
CEND 2/11C	Data gathered as part of Haig Fras mapping Natura survey and monitoring/pressures R&D survey	Greater Haig Fras	FS RA 02	Jan and Mar 2011	Processed data available (post evidence assessment)	JNCC/Cefas	CTD/SVP, Multibeam, Pots, Seabed imagery (stills and video)	Species, Habitat, Acoustic	Presence and Extent of features
CEND 19/11	Opportunistic data gathered by Cefas	South-West Deeps (East)	FS 02	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Multibeam, Grabs, Seabed imagery	Acoustic, Species, Habitat	Presence and Extent of features
CEND 19/11	Opportunistic data gathered by Cefas	South-West Deeps (West)	FS 03	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Grab	Species, Habitat,	Presence and Extent of features
CEND 19/11	Opportunistic data gathered by Cefas	North-West of Jones Bank	FS 04	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Multibeam, Grabs	Acoustic, Species, Habitat	Presence and Extent of features
CEND 19/11	Opportunistic data gathered by Cefas	South of Celtic Deep	FS 09	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Multibeam	Acoustic	Presence and Extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code (RA= reference area)	Date of survey	Reasons why data are currently absent from MCZ advice	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
CEND 19/11	Opportunistic data gathered by Cefas	East of Celtic Deep	FS 11	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Multibeam, Seabed imagery	Acoustic, Species, Habitat	Presence and Extent of features
CEND 19/11	Opportunistic data gathered by Cefas	Western Channel	FS 12	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Multibeam, grabs, Seabed imagery	Acoustic, Species, Habitat	Presence and Extent of features
CEND 19/11	Opportunistic data gathered by Cefas	South of the Isles of Scilly	FS 13	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Multibeam	Acoustic	Presence and Extent of features
CEND 19/11	Opportunistic data gathered by Cefas	South-East of Falmouth	FS 30	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Multibeam, grabs, Seabed imagery	Acoustic, Species, Habitat	Presence and Extent of features
CEND 19/11	Opportunistic data gathered by Cefas	East of Jones Bank	FS 06	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Grabs, Multibeam	Species, Habitat, Acoustic	Presence and Extent of features
CEND 2/11	Data gathered as part of Haig Fras mapping Natura survey and Monitoring/pressures R&D survey	North-East of Haig Fras	FS 08	Jan-11	Processed data available (post evidence assessment)	JNCC/Cefas	Sidescan, Multibeam (unprocessed), Grabs	Acoustic, Species, Habitat	Presence and Extent of features
CEND 3/12 AB	MCZ site verification survey	East of Haig Fras	FS 07	Feb-12	Survey completed but data not yet processed/in usable form	JNCC/Cefas	Multibeam, Grabs, Seabed imagery	Acoustic, Species, Habitat	Presence and Extent of features
CEND 3/12 AB	MCZ site verification survey	South of Celtic Deep	FS 09	Feb-12	Survey completed but data not yet processed/in usable form	JNCC/Cefas	Multibeam, Grabs, Seabed imagery	Acoustic, Species, Habitat	Presence and Extent of features
CEND 3/12 AB	MCZ site verification survey	East of Celtic Deep	FS 11	Feb-12	Survey completed but data not yet processed/in usable form	JNCC/Cefas	Grabs, Multibeam, Seabed imagery	Species, Habitat, Acoustic	Presence and Extent of features
CEND 3/12 AB	MCZ site verification survey	Western Channel	FS 12	Feb-12	Survey completed but data not yet processed/in usable form	JNCC/Cefas	Grabs, Camera	Species, Habitat	Presence and Extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code (RA= reference area)	Date of survey	Reasons why data are currently absent from MCZ advice	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
CEND 3/12 AB	MCZ site verification survey	South-East of Falmouth	FS 30	Feb-12	Survey completed but data not yet processed/in usable form	JNCC/Cefas	Grabs, Camera	Species, Habitat	Presence and Extent of features
CHP HI 1328	Data from MCA CHP surveys: only very small overlap with rMCZ.	East of Celtic Deep	FS 11	2010/2011	Survey completed but data not yet processed/in usable form	OSAE (MCA contractor)	Multibeam	Acoustic	Presence and Extent of features
CHP HI 1157	MCA CHP data	Cape Bank	FS 36	2009/2010	Survey completed but data not yet processed/in usable form	MCA (CHP) and Natural England/Cefas	Multibeam	Acoustic	Presence and Extent of features
HABMAP	Completed as part of INTERREG HabMap project	Celtic Deep	FS 10	2005	Data collected and processed, no habitat map	HABMAP	Grabs, Multibeam, Sidescan, Still photographs, Sub bottom profile, Trawl, Video	Species, Habitat, Acoustic	Presence and Extent of features
HMS Scott	Survey completed as part of UNCLOS work by UK Government	The Canyons	FS 01	2008	Data collected and processed, no habitat map, only bathymetry	UNCLOS	Multibeam	Acoustic	Presence and Extent of features
IFREMER Sedimanche survey	Survey completed by IFREMER	The Canyons	FS 01	1992	Data collected and processed, no habitat map, only bathymetry	IFREMER	Multibeam	Acoustic	Presence and Extent of features
Marine Institute 2003–2011	Marine Institute surveys focused on Nephrops grounds	Celtic Deep	FS 10	2003–2011	Survey completed but data not yet processed/in usable form	Marine Institute	Video – towed	Distribution/abundance of species	Presence and Extent of features
Marine Institute 2003–2011	Marine Institute surveys focused on Nephrops grounds	East of Celtic Deep	FS 11	2003–2011	Survey completed but data not yet processed/in usable form	Marine Institute	Video – towed	Distribution/abundance of species	Presence and Extent of features
N/A	Survey completed on behalf of Cefas for MCZ site verification as part of Information to Tender process	North-West of Jones Bank	FS 04	Mar-12	Survey completed but data not yet processed/in usable form	Gardline Hydro (contracted out by Cefas)	Multibeam, Grabs, Seabed imagery	Species, Habitat, Acoustic	Presence and Extent of features
N/A	Survey completed on behalf of Cefas for MCZ site verification as part of Information to Tender process	East of Haig Fras	FS 07	Mar-12	Survey completed but data not yet processed/in usable form	Gardline Hydro (contracted out by Cefas)	Multibeam	Acoustic	Presence and Extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code (RA= reference area)	Date of survey	Reasons why data are currently absent from MCZ advice	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
N/A	Survey completed on behalf of Cefas for MCZ site verification as part of Information to Tender process	South of Celtic Deep	FS 09	Mar-12	Survey completed but data not yet processed/in usable form	Gardline Hydro (contracted out by Cefas)	Multibeam	Acoustic	Presence and Extent of features
N/A	MCA CHP data backscatter processed by Tim Le Bas. Further ground-truthing undertaken in 2012	Western Channel	FS 12	N/A	Survey completed but data not yet processed/in usable form	NOC (Tim Le Bas), BGS	Processed MCA CHP HI 1059 backscatter data and then interpreted by BSG to produce seabed sediment map	Seabed sediment map	Presence and Extent of features
N/A	MCA CHP data backscatter processed. Further ground-truthing undertaken in 2012	South-East of Falmouth	FS 30	N/A	Survey completed but data not yet processed/in usable form	MCA	Processed MCA CHP HI 1059 backscatter data	Backscatter map	Presence and Extent of features
Irish Sea Conservation Zones									
CEND 19/11	Opportunistic data gathered by Cefas	North of Celtic Deep	ISCZ 05	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Multibeam, Seabed imagery	Acoustics, Habitat, Species	Presence and Extent of features
CEND 19/11	Opportunistic data gathered by Cefas	North St. George's Channel	ISCZ 03	Nov-11	Survey completed but data not yet processed/in usable form	Cefas	Multibeam, Camera	Acoustic, Species, Habitat	Presence and Extent of features
CEND 3/12 AB	MCZ site verification survey	North St. George's Channel	ISCZ 03	Feb-12	Survey completed but data not yet processed/in usable form	JNCC/Cefas	Grabs, Multibeam, Camera	Species, Habitat, Acoustic	Presence and Extent of features
CEND 3/12 AB	MCZ site verification survey	North of Celtic Deep	ISCZ 05	Feb-12	Survey completed but data not yet processed/in usable form	JNCC/Cefas	Camera, Grabs, Multibeam	Species, Habitat, Acoustic	Presence and Extent of features
HABMAP	Completed as part of INTERREG HabMap project	North of Celtic Deep	ISCZ 05	2005	Data collected and processed, no habitat map	HABMAP	Grabs, Multibeam, Sidescan, Still photographs, Sub bottom profile, Trawl, Video	Species, Habitat	Presence and Extent of features
Marine Institute 2003–2011	Marine Institute/AFBI surveys focused on Nephrops grounds	South Rigg	ISCZ 06	2003–2011	Survey completed but data not yet processed/in usable form	Marine Institute	Video – towed	Species, Habitat	Presence and Extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code (RA= reference area)	Date of survey	Reasons why data are currently absent from MCZ advice	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
Marine Institute 2003–2011	Marine Institute/AFBI surveys focused on Nephrops grounds	Slieve Na Griddle	ISCZ 07	2003–2011	Survey completed but data not yet processed/in usable form	Marine Institute	Video – towed	Species, Habitat	Presence and Extent of features
N/A	Survey completed on behalf of Cefas for MCZ site verification as part of the Information to Tender process	North St. George's Channel	ISCZ 03	Mar-12	Survey completed but data not yet processed/in usable form	OSIRIS (contracted out by Cefas)	Multibeam, Sidescan	Acoustic	Presence and Extent of features
N/A	Survey completed on behalf of Cefas for MCZ site verification as part of the Information to Tender process	North of Celtic Deep	ISCZ 05	Mar-12	Survey completed but data not yet processed/in usable form	Gardline Hydro (contracted out by Cefas)	Multibeam	Acoustic	Presence and Extent of features
RV Corystes	Survey completed on behalf of Cefas for MCZ site verification as part of the Information to Tender process	South Rigg	ISCZ 06	Feb-12	Survey completed but data not yet processed/in usable form	AFBI	Grabs, Multibeam, Seabed imagery	Species, Habitat, Acoustic	Presence and Extent of features
RV Corystes	Survey completed on behalf of Cefas for MCZ site verification as part of the Information to Tender process	Slieve Na Griddle	ISCZ 07	Feb-12	Survey completed but data not yet processed/in usable form	AFBI	Multibeam, Grabs, Seabed imagery	Species, Habitat, Acoustic	Presence and Extent of features
RV Corystes	Survey completed on behalf of Cefas for MCZ site verification as part of the Information to Tender process	Mud Hole	ISCZ 01	Feb-12	Survey completed but data not yet processed/in usable form	AFBI	Grabs, Multibeam, Camera	Species, Habitat, Acoustic	Presence and Extent of features

Table 29 A summary of datasets not used in the evidence assessment that Natural England and JNCC are aware of and that overlap with inshore rMCZs

Note: The table includes data which have been collected recently, are currently being collected or are planned for collection soon. *Mention of the June deadline in this column refers to the final iteration of the regional MCZ project recommendations, i.e. the date beyond which no new data were considered by the regional MCZ projects.

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
Net Gain									
A11 EA MCZ verification survey – Alde/Ore	Survey completed on behalf of Cefas for MCZ site verification	Alde Ore Estuary	NG 01c	2012	Survey completed but data not yet processed/in usable form	EA/ Unicomarine	0.01m2 hand core samples	Benthic species abundance, Particle size, Redox depth, salinity	Presence and extent of features: possible information on condition if data is analysed to look at this
A52 Northumberland County Council/EA LIDAR CELL 1 management monitoring programme	EA LiDAR Cell 1 management monitoring	Coquet to St Mary's	NG 13	Sep-11	Processed data available (post final iteration in June 2011 and pre evidence assessment in Dec 2011)	EA	LIDAR	Extent	Presence and extent of features
A53 BIG SEA survey (University of Newcastle upon Tyne)	University-based project surveys of rocky shores	Coquet to St Mary's	NG 13	2011–2012	Processed data available (post evidence assessment in Dec 2011)	University of Newcastle	Rocky shore surveys	Presence (by extrapolation)	Presence and extent of features
A12 EA MCZ verification survey – Cromer Shoal	Survey completed on behalf of Cefas for MCZ site verification	Cromer Shoal Chalk Beds	NG 02	2012	Survey completed but data not yet processed/in usable form	EA	Drop-down camera	Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A27 MCZ verification survey – Cromer Shoal	Survey completed on behalf of Cefas for MCZ site verification	Cromer Shoal Chalk Beds, North Norfolk Blue Mussel Beds	NG 02, NG RA 01	2012	Survey/data processing is ongoing	(contractor unknown)	Multibeam	Multibeam backscatter, Bathymetry	Presence and extent of features: possible information on condition if data is analysed to look at this

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A2 NEIFCA no take zone monitoring	NEIFCA project to establish baseline for Flamborough no take zone	Flamborough Head No Take Zone	NG RA 09	2010 Ongoing	Survey/data processing is ongoing. The MCZ project was informed of data availability of initial studies but this was not included in their final assessment	NEIFCA	Stock assessment, Shore profiling, Macrophyte survey, Blue mussel survey, Sidescan dataset development	Stock assessment, Shore profiling, Macrophyte survey, Blue mussel survey, Sidescan dataset development	Presence and condition
A14 EA MCZ verification survey – Holderness Inshore	Survey completed on behalf of Cefas for MCZ site verification	Holderness Inshore	NG 08	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A3 NESFC prohibited trawl area study	Survey of the prohibited trawl area, commissioned by NESFC to investigate trawling impact	Holderness Inshore, Flamborough Head No Take Zone, Runswick Bay	NG 08, NG 11	2005–2007	The MCZ project was informed of data availability (by NESFC and Natural England) but it was not included in their final assessment	Institute of Estuarine and Coastal Studies	Roxann GDA, Grab	EUNIS classification, Species presence and abundance	Presence and extent of features
A1 East Riding of Yorkshire Council bathymetric survey	Bathymetric survey of inshore waters (to 1 nautical mile) to understand coastal waters. Natural England provided funds to extend survey to cover Flamborough SAC	Holderness Inshore, Flamborough Head No Take Zone	NG 08, NG RA 09	2011	Survey completed but data not yet processed/in usable form for all areas. Processed data available (post Dec 2011) for Flamborough offshore elements	Pell Frischmann Consultants Ltd	Grab samples, Multibeam	Distribution of Habitat, Particle size analysis	Presence and extent features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A13 EA MCZ verification survey – Lincs Belt	Survey completed on behalf of Cefas for MCZ site verification	Lincs Belt	NG 05	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species Abundance, Particle size, Redox depth, salinity, camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A28 MCZ verification survey – Lincs Belt	Survey completed on behalf of Cefas for MCZ site verification	Lincs Belt	NG 05	2012	Survey/data processing is ongoing	(contractor unknown)	Multibeam	Multibeam backscatter, Bathymetry	Presence and extent of features: possible information on condition if data is analysed to look at this
A26 MCZ verification survey – Orford Inshore	Survey completed on behalf of Cefas for MCZ site verification	Orford Inshore	NG 01b	2012	Survey/data processing is ongoing	(contractor unknown)	Multibeam, Grab samples, Camera drops	Bathymetry, Multibeam backscatter data, Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A4 NEIFCA lobster stock assessment data	Lobster stock assessment, commissioned by NEIFCA	Runswick Bay, castle Ground, Holderness Inshore, Flamborough Head No Take Zone	NG 11, NG 10, NG 08, NG RA 09	2009 Ongoing	Survey/data processing is ongoing. The MCZ project was informed of data availability of initial studies but this was not included in their final assessment	NEIFCA	Sampling at sea, Discard data, Tagging and recapture, Process of MMO – 10m catch returns giving species take by subdivided ICES rectangle	Abundance, catch rates, Size at maturity, Sex ratios	Possible information on condition (related to fishery)

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A89 Baseline survey of Inner Dowsing, Race Bank and North Ridge cSAC, and of Haisborough, Hammond and Winterton cSAC	Cefas survey. Multibeam, drop-down video and sampling of Inner Dowsing, Race Bank and North Ridge cSAC, and of Haisborough, Hammond and Winterton cSAC. To establish baseline	Wash Approach	NG 04	2011–2012	Survey/data processing is ongoing	Cefas	Multibeam, drop video, Hammond grab, HamCam	Distribution of sandbanks and <i>S.spinulosa</i> . reef and surrounding habitat	Presence and extent of features: possible information on condition if data is analysed to look at this
Balanced Seas									
A19 EA MCZ verification survey – Beachy Head East	Survey completed on behalf of Cefas for MCZ site verification	Beachy Head East	BS 13.1	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A30 MCZ verification survey – Beachy Head East	Survey completed on behalf of Cefas for MCZ site verification	Beachy Head East	BS 13.1	2012	Survey/data processing is ongoing	(contractor unknown)	Multibeam	Multibeam backscatter, Bathymetry	Presence and extent of features: possible information on condition if data is analysed to look at this
A22 EA MCZ verification survey – Bembridge	Survey completed on behalf of Cefas for MCZ site verification	Bembridge	BS 22	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A62 Natural England South Wight multibeam Survey	Assessment of feature presence and extent in South Wight	Bembridge, St Catherine's Point West, The Needles	BS 22, BS RA 18, BS 20	2009	Survey/data processing is ongoing	Natural England	Multibeam	Distribution of Habitat	Presence and extent of features
A31 MCZ verification survey – Bembridge	Survey completed on behalf of Cefas for MCZ site verification	Bembridge, Tyne Ledges, Culver Spit	BS 22, BS RA 15, BS RA 21	2012	Survey/data processing is ongoing	(contractor unknown)	Multibeam	Multibeam backscatter, Bathymetry	Presence and extent of features: possible information on condition if data is analysed to look at this

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A39 Natural England intertidal benthic infauna survey 2011–12 – Essex Estuaries and Swale	Assessment of intertidal infaunal condition	Blackwater, Crouch, Roach and Colne Estuary, The Swale Estuary	BS 03, BS 10	2011 Ongoing	Survey completed but data not yet processed/in usable form	Natural England	Intertidal hand core samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features, Condition
A16 EA MCZ verification survey – Dover to Deal	Survey completed on behalf of Cefas for MCZ site verification	Dover to Deal	BS 11.1	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A58 Ramsgate Dungeness	Seabed mapping – part of Southeast Strategic Regional Coastal Monitoring Programme	Dover to Deal, Dover to Folkestone, South Foreland Lighthouse, Hythe Bay	BS 11.1, BS 11.2, BS RA 07, BS 26	2010	Survey completed but data not yet processed/in usable form	Channel Coastal Observatory	Multibeam	Distribution of Habitat	Presence and extent of features
A17 EA MCZ verification survey – Dover to Folkestone	Survey completed on behalf of Cefas for MCZ site verification	Dover to Folkestone	BS 11.2	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A29 MCZ verification survey – Folkestone Pomerania	Survey completed on behalf of Cefas for MCZ site verification	Folkestone Pomerania, Flying Fortress	BS 11.4, BS RA 25	2012	Survey/data processing is ongoing	(contractor unknown)	Multibeam	Multibeam backscatter, Bathymetry	Presence and extent of features: possible information on condition if data is analysed to look at this
A57 Dover Strait routine re-survey of blocks 1–4	To aid safe navigation of ships and to update navigational charts, commissioned by MCA	Goodwin Knoll, Goodwin Sands	BS RA 06, BS 08	2009	Survey completed but data not yet processed/in usable form	Maritime and Coastguard Agency	Multibeam	Distribution of Habitat	Presence and extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A18 EA MCZ verification survey – Hythe Bay	Survey completed on behalf of Cefas for MCZ site verification	Hythe Bay, Hythe Flats	BS 26, BS RA 08	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A33 MCZ verification survey – Hythe Bay	Survey completed on behalf of Cefas for MCZ site verification	Hythe Bay, Hythe Flats	BS 26, BS RA 08	2012	Survey/data processing is ongoing	(contractor unknown)	Multibeam	Multibeam backscatter, Bathymetry	Presence and extent of features: possible information on condition if data is analysed to look at this
A20 EA MCZ verification survey – Kingmere	Survey completed on behalf of Cefas for MCZ site verification	Kingmere	BS 16	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A95 WFD Operational benthic infauna survey – Medway Estuary	Assessment of benthic infauna	Medway Estuary	BS 06	2012 Ongoing	Survey completed but data not yet processed/in usable form	EA	Day grab samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features: possible information on condition if data is analysed to look at this
A23 EA MCZ verification survey – Norris to Ryde	Survey completed on behalf of Cefas for MCZ site	Norris to Ryde	BS 19	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A42 WFD intertidal seagrass survey– Solent	Assessment of presence, extent, condition of intertidal seagrass	Norris to Ryde	BS 19	Sep-2011	Processed data available (post final iteration in June 2011 and pre evidence assessment in Dec 2011)	EA	Intertidal quadrats	Seagrass bed extent, Shoot density, Species identification	Presence and extent of features, Condition

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A34 MCZ verification survey – Norris to Ryde	Survey completed on behalf of Cefas for MCZ site verification	Norris to Ryde, King's Quay	BS 19, BS RA 17	2012	Processed data available (post final iteration in June 2011 and pre evidence assessment in Dec 2011)	(contractor unknown)	Multibeam	Multibeam backscatter, Bathymetry	Presence and extent of features: possible information on condition if data is analysed to look at this
A38 WFD and Natural England subtidal benthic infauna survey – Solent Maritime SAC	Assessment of presence, extent and condition of subtidal benthic infauna	Norris to Ryde, The Needles, Bembridge, Yarmouth to Cowes	BS 19, BS 20, BS 22, BS 23	2011	Processed data available (post final iteration in June 2011 and pre evidence assessment in Dec 2011)	EA/Natural England	Day grab samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features, Condition
A61 CCO Isle of Wight surveys	Seabed mapping – coastal process monitoring	Norris to Ryde, Yarmouth to Cowes, The Needles, St Catherine's Point West, Bembridge	BS 19, BS 23, BS 20, BS RA 18, BS 22	2011	Survey completed but data not yet processed/in usable form	Channel Coastal Observatory	Multibeam	Distribution of Habitat	Presence and extent of features
A59 Dover Strait TSS	For navigation purposes, commissioned by MCA	Offshore Foreland, Inner Bank	BS 09, BS 31	2006	Survey completed but data not yet processed/in usable form	Maritime and Coastguard Agency	Multibeam	Distribution of Habitat	Presence and extent of features
A35 WFD subtidal benthic infauna survey – Stour Estuary	Assessment of subtidal infauna	Stour & Orwell Estuaries	BS 02	2011	Processed data available (post final iteration in June 2011 and pre evidence assessment in Dec 2011)	EA	Day grab samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features, Condition
A36 WFD subtidal benthic infauna survey 2011 – Orwell Estuary	Assessment of subtidal infauna	Stour & Orwell Estuaries	BS 02	2011	Processed data available (post final iteration in June 2011 and pre evidence assessment in Dec 2011)	EA	Day grab samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features, Condition

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A48 WFD transitional fish surveys 2011 – Thames Upper	Assessment of transitional fish	Thames Estuary	BS 05	2011	Processed data available (post evidence assessment in Dec 2011)	EA	Seine nets or fyke nets	Fish species abundance, Length, Weight	Presence of feature
A54 CCO WP14 Ramsgate to Minnis Bay	For navigation purposes, commissioned by MCA	Thanet Coast	BS 07	2011	Survey completed but data not yet processed/in usable form	Channel Coastal Observatory	Multibeam	Distribution of Habitat	Presence and extent of features
A55 Thames Estuary and Dover Strait RRS (Pt 2)	To aid safe navigation of ships and to update navigational charts, commissioned by MCA	Thanet Coast	BS 07	2006	Survey completed but data not yet processed/in usable form	Maritime and Coastguard Agency	Multibeam	Distribution of Habitat	Presence and extent of features
A56 Margate Road Inner	To aid safe navigation of ships and to update navigational charts, commissioned by MCA	Thanet Coast	BS 07	2006	Survey completed but data not yet processed/in usable form	Maritime and Coastguard Agency	Multibeam	Distribution of Habitat	Presence and extent of features
A15 EA MCZ verification survey – The Swale	Survey completed on behalf of Cefas for MCZ site verification	The Swale Estuary	BS 10	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A41 WFD subtidal benthic infauna survey 2012 – Whitstable Bay	Assessment of subtidal infauna	The Swale Estuary	BS 10	2012 Ongoing	Survey completed but data not yet processed/in usable form	EA	Day grab samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features, Condition
A21 EA MCZ verification survey – Utopia	Verification of proposed MCZ features, commissioned by Cefas	Utopia, North Utopia	BS 28, BS RA 13	2012	Survey completed but data not yet processed/in usable form	EA	Drop-down camera	Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A60 Eastern Approaches to the Nab Channel	For navigation purposes, commissioned by MCA	Utopia, North Utopia	BS 28, BS RA 13	2008	Survey completed but data not yet processed/in usable form	Maritime and Coastguard Agency	Multibeam	Distribution of Habitat	Presence and extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A24 EA MCZ verification survey – Yarmouth to Cowes	Survey completed on behalf of Cefas for MCZ site verification	Yarmouth to Cowes	BS 23	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A32 MCZ verification survey – Yarmouth to Cowes	Survey completed on behalf of Cefas for MCZ site verification	Yarmouth to Cowes	BS 23	2012	Survey/data processing is ongoing	(contractor unknown)	Multibeam	Multibeam backscatter, Bathymetry	Presence and extent of features: possible information on condition if data is analysed to look at this
A88 Solent Maritime SAC intertidal survey	Assessment of condition of intertidal Solent SAC	Yarmouth to Cowes	BS 23	2011	Processed data available (post evidence assessment in Dec 2011)	Natural England	Intertidal transects and quadrats	Abundance, Distribution of intertidal rock benthic species	Presence and extent of features, Condition
Finding Sanctuary									
A40 WFD intertidal benthic infauna survey 2012 – Camel Estuary	Assessment of intertidal benthic infauna	Camel Estuary	FS 39	2012 Ongoing	Survey completed but data not yet processed/in usable form	EA	0.01m ² hand core samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features, Condition

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A94 Axelsson and Dewey, 2011. Lizard Point (cSAC) and Land's End and Cape Bank (cSAC) baseline surveys. Drop-down camera (stills photography and video) and Remotely Operated Vehicle (ROV) surveys. Natural England commissioned study	Baseline survey of presence, extent and condition of reef features in dSAC	Cape Bank	FS 36	2011	Processed data was available just prior to June deadline; however, unsure if MCZ project was made aware of availability and it was not incorporated	SeaStar	Drop-down camera (stills photography and video), ROV surveys	Condition and extent of Annex 1 habitat features, Benthic species and habitat distribution and abundance	Presence and extent of features, Indication of condition
A78 Offshore SAC Cape Bank. SAC selection assessment. Cefas July 2008	Assessment of presence, extent and condition of possible Annex 1 features in possible SAC (pSAC). Survey covered a broad area of search to inform SAC boundary selection	Cape Bank	FS 36, FS RA 12	2008	The MCZ project incorporated aspects of report but not other pertinent data, for example, sediment	Cefas	Multibeam, Drop video, Grab samples, Scallop dredge, Hammond grab	Benthic species and habitat distribution and abundance	Presence and extent of features, Indication of condition
A79 Cefas (2010) Land's End and Cape Bank (pSAC) and Lizard Point (pSAC) offshore survey report	Survey report summarises acoustic data and drop-down video data collected to assess presence, extent and condition of reef features in cSAC. Acoustic data collected from inside and outside cSAC boundary	Cape Bank, Land's End	FS 36, FS RA 12, FS 34	2010	Processed data was available just prior to June deadline; however, unsure if MCZ project was made aware of availability and it was not incorporated	Cefas	Multibeam, Drop video	Benthic species and habitat distribution and abundance	Presence and extent of features, Indication of condition

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A66 Hartland Point to Land's End	To aid safe navigation of ships and to update navigational charts, commissioned by MCA	Cape Bank, Newquay and The Gannel, Padstow Bay and surrounds, Hartland Point to Tintagel	FS 36, FS RA 12, FS 37, FS 38, FS 40	2011	Survey completed but data not yet processed/in usable form	Maritime and Coastguard Agency	Multibeam	Distribution of Habitat	Presence and extent of features
A37 WFD subtidal benthic infauna survey 2011 – Dart Estuary	Assessment of subtidal infauna	Dart Estuary	FS 23	2011	Processed data available (post final iteration in June 2011 and pre evidence assessment in Dec 2011)	EA	Day grab samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features, Condition
A47 WFD transitional fish surveys 2011 – Dart	Assessment of transitional fish	Dart Estuary	FS 23	2011	Processed data available (post final iteration in June 2011 and pre evidence assessment in Dec 2011)	EA	Seine nets or fyke nets	Fish species abundance, Length, Weight	Presence of feature
A75 Salcombe to Kingsbridge Site of Special Scientific Interest (SSSI) and Erme Estuary SSSI intertidal biotope survey 2009	Assessment of condition of intertidal biotopes in Salcombe to Kingsbridge SSSI and Erme Estuary SSSI	Erme Estuary	FS RA 08, FS 26	2009	Processed data was available just prior to June deadline; however, unsure if MCZ project was made aware of availability and it was not incorporated	ASM Ltd.	Core samples and Phase 2 biotope survey	Benthic species abundance, Particle size, Redox depth, Biotope extent and distribution	Presence and extent of features, Indication of condition
A77 Isles of Scilly SAC diving monitoring studies 2011	Diving surveys to assess condition, Isles of Scilly SAC	Isles of Scilly Sites	FS 35	2011	Processed data available (post evidence assessment in Dec 2011)	Seascope	Diving transects and quadrats	Distribution and abundance of habitat/species	Presence and extent of features, Indication of condition

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A86 Seasearch	Seasearch diving surveys	Isles of Scilly Sites	FS 35	May-11	Processed data available (post evidence assessment in Dec 2011)	Seasearch	Diver benthic habitat characterisation	Seasearch for presence of biotopes and species	Presence of features
A87 Natural England Isles of Scilly intertidal condition monitoring	Intertidal condition monitoring, Isles of Scilly	Isles of Scilly Sites	FS 35	Sep-11	Processed data available (post evidence assessment in Dec 2011)	Natural England	Intertidal transects and quadrats	Abundance, Distribution of intertidal rock benthic species	Presence and extent of features
A92 Isles of Scilly annual <i>Zostera marina</i> monitoring	<i>Zostera marina</i> monitoring, Isles of Scilly	Isles of Scilly Sites	FS 35	2011	Processed data available (post evidence assessment in Dec 2011)	Natural England contractor	Diver survey	Seagrass mapping, Density estimates	Presence and extent of features
A93 Offshore monitoring of Annex 1 reef habitat present within the Isles of Scilly SAC	Cefas offshore survey. Annex 1 reef habitat, Isles of Scilly	Isles of Scilly Sites	FS 35	2011	Processed data available (post evidence assessment in Dec 2011)	Cefas	Acoustic (sidescan and multibeam), Drop video	Condition and extent of Annex 1 habitat features	Presence and extent of features
A9 EA MCZ verification survey – Land's End	Survey completed on behalf of Cefas for MCZ site verification	Land's End	FS34	2012	Survey completed but data not yet processed/in usable form	EA	Drop-down camera	Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A67 Barnstable Bay	To aid safe navigation of ships and to update navigational charts, commissioned by MCA	Lundy, Bideford to Foreland Point, Morte Platform	FS 41, FS 43, FS 44	2008	Survey completed but data not yet processed/in usable form	Maritime and Coastguard Agency	Multibeam	Distribution of Habitat	Presence and extent of features
A10 EA MCZ verification survey – Morte Platform	Survey completed on behalf of Cefas for MCZ site verification	Morte Platform	FS 44	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A90 Outer Bristol Channel marine habitat study	Assessment of benthic habitat and distributions	Morte Platform, North of Lundy (Atlantic Array area)	FS 44, FS 45	2006	The MCZ project was informed of data availability but it was not included in their final assessment	National Museum Wales	Acoustic, Drop video, Grab samples	Benthic species and habitat distribution and abundance	Presence and extent of features
A91 Atlantic Array benthic ecology characterisation report	Assessment of habitat distribution and abundance	Morte Platform, North of Lundy (Atlantic Array area)	FS 44, FS 45	2011	Processed data available (post evidence assessment in Dec 2011)	RWE	Acoustic, Drop video, Grab samples	Benthic species and habitat distribution and abundance	Presence and extent of features
A8 EA MCZ verification survey – Mounts Bay	Survey completed on behalf of Cefas for MCZ site verification	Mounts Bay	FS 33	2012	Survey completed but data not yet processed/in usable form	EA	Day grab samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features: possible information on condition if data is analysed to look at this
A65 Lizard Point to Land's End (CCO BSW4)	Seabed mapping – coastal process monitoring	Mounts Bay, Land's End	FS 33, FS 34	2008	Survey completed but data not yet processed/in usable form	Channel Coastal Observatory	Multibeam	Distribution of Habitat	Presence and extent of features
A5 EA MCZ verification survey – Otter Estuary	Survey completed on behalf of Cefas for MCZ site verification	Otter Estuary	FS 21	2012	Survey completed but data not yet processed/in usable form	EA/ Unicomarine	0.01m2 hand core samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features: possible information on condition if data is analysed to look at this
A83 CWT Porcupine Marine survey	Phase 1 exploratory survey	Padstow Bay and surrounds, Newquay and The Gannel	FS 38, FS 37	May-11	Processed data available (post evidence assessment in Dec 2011)	Cornwall Wildlife Trust/ Porcupine Marine Natural History Society	Diver benthic habitat characterisation	Seasearch for presence of biotopes and species	Presence of features
A84 CWT Porcupine Marine survey	Phase 1 exploratory survey	Padstow Bay and surrounds, Newquay and The Gannel	FS 37, FS 38	May-11	Processed data available (post evidence assessment in Dec 2011)	Cornwall Wildlife Trust/ Porcupine Marine Natural History Society	Intertidal seaweed survey	Species lists	Presence of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A63 Natural England Start Point to Plymouth Sound multibeam survey	Multibeam survey of start point to Plymouth Sound	Skerries Bank and surrounds	FS 24	2011	Survey completed but data not yet processed/in usable form	Natural England	Multibeam	Distribution of Habitat	Presence and extent of features
A64 W Approaches to English Channel	To aid safe navigation of ships and to update navigational charts, commissioned by MCA	Skerries Bank and surrounds, Land's End	FS 24, FS 34	2005	Survey completed but data not yet processed/in usable form	Maritime and Coastguard Agency	Multibeam	Distribution of Habitat	Presence and extent of features
A76 Prawle Point to Plymouth Sound and Eddystone cSAC drop-down video survey 2011	Condition survey of Prawle Point to Plymouth Sound and Eddystone cSAC	Skerries Bank and surrounds, Torbay	FS 24, FS 22	2011	Processed data was available just prior to June deadline; however, unsure if the MCZ project was made aware of availability and it was not incorporated	Plymouth University	Towed video transects	Distribution and abundance of habitat/species	Presence and extent of features, Indication of condition
A80 voluntary no anchor zone study	Assessment of impact of anchoring – Studland Bay	Studland Bay	FS 15	2009–2012	Survey completed but data not yet processed/in usable form	SeaStar	Acoustic baseline mapping, Diver survey	Shoot density of seagrass	Presence of features
A81 MAIA study on anthropogenic impact on seagrass within Studland Bay	Assessment of anthropogenic impacts on seagrass – Studland Bay	Studland Bay	FS 15	2011–2012	Survey/data processing is ongoing	Marine Biological Association	Side scan, Diver survey camera Drop-down camera, Aerial photograph analysis, Use of existing multibeam bathymetry	Presence and extent of seagrass, Effects of anchoring and mooring on Zostera spp.	Presence and extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A73 Littoral biotope survey and condition assessment of the Lynher Estuary SSSI 2010	Assessment of condition of littoral biotopes, Lynher Estuary	Tamar Estuary Sites	FS 27	2010	Processed data was available just prior to June deadline; however, unsure if MCZ project was made aware of availability and it was not incorporated	Ecospan	Core samples and Phase 2 biotope survey	Benthic species abundance, Particle size, Redox depth, Biotope extent and distribution	Presence and extent of features, Indication of condition
A74 Littoral biotope survey and condition assessment of the Tamar Tavy and St John's Lake SSSIs 2010	Assessment of condition of littoral biotopes, Tamar Tavy and St John's Lake SSSIs	Tamar Estuary Sites	FS 27	2010	Processed data was available just prior to June deadline; however, unsure if MCZ project was made aware of availability and it was not incorporated	Ecospan	Core samples and Phase 2 biotope survey	Benthic species abundance, Particle size, Redox depth, Biotope extent and distribution	Presence and extent of features, Indication of condition
A7 EA MCZ verification survey – The Manacles	Survey completed on behalf of Cefas for MCZ site verification	The Manacles	FS 32	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A85 CWT Seasearch	Seasearch diver survey	The Manacles	FS 32	2011–2012	Processed data available (post evidence assessment in Dec 2011)	Cornwall Wildlife Trust/ Porcupine Marine Natural History Society	Diver benthic habitat characterisation	Seasearch for presence of biotopes and species	Presence of features
A6 EA MCZ verification survey – Upper Fowey and Pont Pill	Survey completed on behalf of Cefas for MCZ site verification	Upper Fowey and Pont Pill	FS 29	2012	Survey completed but data not yet processed/in usable form	EA/ Unicomarine	0.01m2 hand core samples	Benthic species abundance, Particle size, Redox depth, Salinity	Presence and extent of features: possible information on condition if data is analysed to look at this

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A82 CWT Looe seagrass mapping	Cornwall Wildlife Trust ROV video survey of seagrass – Whitsand and Looe Bay	Whitsand and Looe Bay	FS 28	2011	Processed data available (post evidence assessment in Dec 2011)	Cornwall Wildlife Trust	ROV video	Seagrass mapping, Density estimates	Presence and extent of features
Irish Sea Conservation Zones									
A25 EA MCZ verification survey – Allonby Bay	Survey completed on behalf of Cefas for MCZ site verification	Allonby Bay	ISCZ 10	2012	Survey completed but data not yet processed/in usable form	EA	Grab samples, Camera drops	Benthic species abundance, Particle size, Redox depth, Salinity, Camera images	Presence and extent of features: possible information on condition if data is analysed to look at this
A49 Mapped multibeam imagery of the outer Solway Firth	Obtain mapped multibeam imagery of the outer Solway Firth: commissioned by MCA Civil Hydrography Programme	Allonby Bay, Allonby Bay	ISCZ 10, ISCZ RA H	Oct-09	The MCZ project was informed of data availability by Natural England but it was not included in their final assessment	Maritime and Coastguard Agency – Civil Hydrography Programme ‘Workington to Silloth’	Multibeam bathymetry, Backscatter	Physical seabed maps outlining areas of scar ground surrounded by sand banks	Presence and extent of features
A50 English Nature Solway Firth subtidal scar ground survey	Assessment of subtidal scar ground of Solway Firth SAC: commissioned by English Nature	Allonby Bay, Allonby Bay	ISCZ 10, ISCZ RA H	Sep-05	The MCZ project was informed of data availability by Natural England but it was not included in their final assessment	Institute for Estuarine and Coastal studies – University of Hull: Survey for English Nature	Drop-down camera survey of subtidal rocky Habitat	Intended to provide spot descriptions of biotopes and map the extent of subtidal rocky biotopes	Presence and extent of features
A72 NWIFCA Cumbrian shore survey 2011	Walkover surveys of intertidal areas along the Cumbrian shore: commissioned by NWIFCA	Allonby Bay, Cumbria Coast, Cumbrian Coast (2), Tarn Point, Cuning Point	ISCZ 10, ISCZ 11, ISCZ RA J, ISCZ RA K, ISCZ RA T	2012	Processed data available (post evidence assessment in Dec 2011)	Solenvo Marine Environmental Consultants	Walkover surveys	Distribution and abundance of Habitat/ species	Presence and extent of features

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A51 Natural England Walney redshank survey 2011	Redshank survey of Walney Island, which incorporates vegetation survey and intertidal mud	Barrow North	ICSZ RA Y	2011	Processed data available (post final iteration in June 2011 and pre evidence assessment in Dec 2011)	Natural England	Vegetation survey	Vegetation community types	Presence and extent of features
A68 Monitoring Eel Grass Beds In Morecambe Bay European Marine Site.	Post-pipeline construction monitoring of eelgrass beds	Barrow South	ISCZ RA W	1998–1999	The MCZ project was informed of data availability by Natural England but it was not included in their final assessment	Natural History Museum	Walkover survey to determine presence or absence of Zostera spp. applied to 100m squares covering extent of beds	Distribution and abundance of eelgrass spp., Species composition of beds	Presence, extent and condition of eelgrass features, Substrate types in areas, Extent of competing Spartina
A69 Roosecote Sands eelgrass and ephemeral algae survey: APEM Scientific Report 411271	Investigation of spatial and temporal changes in the distribution of seagrass potentially linked to a WwTW discharge, commissioned by United Utilities	Barrow South	ISCZ RA W	2010	The MCZ project was informed of data availability by Natural England but it was not included in their final assessment	APEM	Aerial survey, Intertidal walkover survey	Distribution, Abundance, Taxonomic composition, Shoot density, Habitat information for Zoster spp. beds, PSA	Presence, extent and condition of eelgrass features, Extent of competing ephemeral algae features, Change in these parameters since surveys began in 1998/99
A70 Intertidal survey of Morecambe Bay and the Duddon Estuary	Intertidal condition survey of Morecambe Bay and Duddon Estuary SSSI/SAC/SPA, commissioned by English Nature	Barrow South	ISCZ RA W	2006	The MCZ project was informed of data availability by Natural England but it was not included in their final assessment	English Nature	Transect	Distribution of species	Presence of feature

Survey ID/ Name	Purpose of the survey	rMCZ name	rMCZ code	Date of survey	Reasons why data are currently absent from MCZ advice*	Surveyor and/or prime contractor	Data collection methods	Type of data	Outputs will inform
A43 WFD transitional fish surveys 2011 – Ribble Estuary	Assessment of transitional fish – Ribble Estuary; commissioned by EA	Ribble Estuary	ISCZ 17	2011	Processed data available (post evidence assessment in Dec 2011), and survey/data processing is ongoing	EA	Seine nets or fyke nets	Fish species abundance, Length, Weight	Presence of feature: possible information on condition if data is analysed to look at this
A71 EA aerial photography	Low tide aerial photography of the whole NW coast as part of the Coastal Cell 11 Regional Monitoring Strategy (CERMS); commissioned by EA/North-West and North Wales Coastal Group	Sefton Coast	ISCZ 13	2005 and 2010	Processed data available (post evidence assessment in Dec 2011)	EA	Aerial photography	Distribution of habitat	Presence and extent of feature
A46 WFD transitional fish surveys 2011 – Solway	Assessment of transitional fish – Solway; commissioned by EA	Solway Firth	ISCZ 15	2011	Processed data available (post evidence assessment in Dec 2011), and survey/data processing is ongoing	EA	Seine nets or fyke nets	Fish species abundance, Length, Weight	Presence of feature: possible information on condition if data is analysed to look at this
A44 WFD transitional fish surveys 2011 – Lune Estuary	Assessment of transitional fish – Lune Estuary; commissioned by EA	Wyre-Lune	ISCZ 16	2011	Processed data available (post evidence assessment in Dec 2011), and survey/data processing is ongoing	EA	Seine nets or fyke nets	Fish species abundance, Length, Weight	Presence of feature: possible information on condition if data is analysed to look at this
A45 WFD transitional fish surveys 2011 – Wyre Estuary	Assessment of transitional fish – Wyre Estuary; commissioned by EA	Wyre-Lune	ISCZ 16	2011	Processed data available (post evidence assessment in Dec 2011), and survey/data processing is ongoing	EA	Seine nets or fyke nets	Fish species abundance, Length, Weight	Presence of feature: possible information on condition if data is analysed to look at this

6. Advice on priorities for designation and sites most at risk

- 6.1 Defra requested JNCC and Natural England provide advice on priorities for designation and sites most at risk. Defra may use this advice, alongside other information, to help phase the designation of recommended Marine Conservation Zones (rMCZs).
- 6.2 In response to this request JNCC and Natural England have provided advice in this section on options for prioritising the designation of rMCZs based on a number of different criteria (**paragraph 6.1.4 below**). Two of these criteria for prioritisation are explored more fully in [Section 6.1](#) and [Section 6.2](#).
- 6.3 [Section 6.1](#) describes the international commitments that relate to Marine Protected Area (MPA) networks including the European Union Marine Strategy Framework Directive, the Convention for the Protection of the marine environment of the North-East Atlantic and the Convention on Biological Diversity. The section looks at how rMCZs can contribute to these commitments as part of a MPA network. This section does not provide an analysis of the contribution of individual rMCZs to these commitments.
- 6.4 [Section 6.2](#) looks at how information on the sensitivity of features within rMCZs, and the pressures they are exposed to, can give an indication of which sites are most at risk. This section assesses each rMCZ and provides a score of relative risk. This section also describes features that are highly sensitive to damage or disturbance.

6.1 Prioritisation of recommended Marine Conservation Zones for designation to meet international and European commitments

Advice to Defra

*JNCC and Natural England **advise** that the prioritisation of recommended Marine Conservation Zones (rMCZs) for designation should consider a number of criteria, including for example, the quality and sufficiency of the evidence, the levels of stakeholder support, the potential economic consequences, and the contribution towards meeting the UK's national and international drivers. JNCC and Natural England **suggest** that Defra may wish to consider the value of a full prioritisation analysis against these criteria in order to understand how an individual rMCZ might contribute to each individual criterion.*

*In developing an ecologically coherent Marine Protected Area (MPA) network, JNCC and Natural England **advise** that international and European obligations should be used to help prioritise rMCZs for designation. In particular the European Union Marine Strategy Framework Directive (EU MSFD), the Convention for the Protection of the marine environment of the North-East Atlantic (OSPAR Convention) and the Convention on Biological Diversity (CBD) all recommend that certain species and habitats are represented, replicated and protected in MPA networks. These species and habitats are broadly, if not directly, equivalent to the broad-scale habitats and Features of Conservation Importance (FOCI) listed in the Ecological Network Guidance (ENG).*

*Many of the broad-scale habitats and FOCI listed in the ENG are already protected in our current MPAs (for example, some FOCI are designated features of Special Areas of Conservation). As such, JNCC and Natural England **advise** that designation of rMCZs should be prioritised to ensure sufficient representation and replication of broad-scale habitats and FOCI that are not protected within existing MPAs in the Defra marine area.*

*Moreover, JNCC and Natural England **advise** that the sufficient representation and replication of broad-scale habitats and FOCI should take account of finer-scale biogeographic variation at the scale of the Charting Progress 2 regional seas.*

*Finally, JNCC and Natural England **advise** that in principle the establishment of reference areas for a range of benthic habitats can help to support our understanding of reference conditions, and provide a direct contribution to achieving some of the proposed targets for Good Environmental Status (GES) across our seas.*

Key messages

The prioritisation of rMCZs for designation can be based on a number of criteria, including for example, the quality and sufficiency of the evidence, the levels of stakeholder support, the potential economic consequences, and the contribution towards meeting the UK's national and international obligations. Therefore it is important to understand how an individual rMCZ might contribute to each individual criterion.

*In developing an MPA network in the Defra marine area, international and European obligations should be used to help prioritise rMCZs for designation. JNCC and Natural England **advise** that this will help the UK to both meet the objectives of these obligations that require the establishment of networks of MPAs, and also support the achievement of other objectives under these obligations. For example, JNCC and Natural England **note** that MPAs, including rMCZs, which offer protection to predominant and special habitats can support achievement of GES under the MSFD by providing a contribution to the proposed targets for biological diversity (D1) and seafloor integrity (D6), both in terms of habitat quality and quantity targets.*

6.1.1 Aims of this section

6.1.1 This section aims to:

- Outline the Marine Protected Area (MPA) network obligations of the European Union Marine Strategy Framework Directive (EU MSFD), the Convention for the Protection of the marine environment of the North-East Atlantic (OSPAR Convention) and the Convention on Biological Diversity (CBD); and how these link to Marine Conservation Zones (MCZs).
- Suggest how the Defra could prioritise designation of recommended MCZs (rMCZs) to help meet these obligations.

6.1.2 Introduction

6.1.2 In a Ministerial Statement on 15 November 2011 (Hansard HC 2011) the Minister for Natural Environment and Fisheries indicated that a phased approach to the designation of rMCZs would be adopted by the Government. The Ministerial Statement focuses on phasing rMCZs for designation based on the quality and sufficiency of evidence available, and states that the Government is “likely to be able to designate some MCZs fairly quickly where the supporting evidence is adequate”.

6.1.3 JNCC and Natural England agree that having appropriate evidence is an important consideration in the designation of sites. [Section 5.1](#) provides an assessment of the evidence for the presence and extent of features proposed for designation in each rMCZ, whilst [Section 5.2](#) provides a confidence assessment for the condition of the features in rMCZs.

6.1.4 However, JNCC and Natural England **advise** the prioritisation of rMCZs for designation should consider a number of other criteria, including:

- National legislation and guidance: rMCZs that contribute most to meeting the network obligations set out in Section 123 of the Marine and Coastal Access Act 2009 (MCAA), which have been further interpreted in the Ecological Network Guidance (ENG), could be prioritised for designation ([Section 2.2](#) and [Section 4.2](#) describe how rMCZs have been identified to meet the requirements of the MCAA and the ENG)
- International and European obligations: rMCZs that contribute most in helping the UK meet its international and European obligations could be prioritised for designation. For example, the MSFD, the OSPAR Convention and CBD all have slightly different requirements regarding the development of MPA networks, and these requirements could be used to help prioritise rMCZs for designation
- Sites at risk: rMCZs most at risk of deterioration or damage from anthropogenic activities could be prioritised for designation, especially where the habitats and species within them are particularly vulnerable to anthropogenic impact or are more sensitive to potential anthropogenic impacts ([Section 6.2](#) details those rMCZs most at risk)
- Economic consequences: rMCZs with the least significant economic cost or highest economic benefit could be prioritised for designation (see the MCZ Impact Assessment (Finding Sanctuary, Irish Sea Conservation Zones, Net Gain, Balanced Seas 2012))
- Stakeholder support: rMCZs with the greatest level of support from stakeholders could be prioritised for designation (the final recommendation reports from the regional MCZ projects provide information on the levels of stakeholder support for each rMCZ (Lieberknecht, et al. 2011, Balanced Seas 2011a, Irish Sea Conservation Zones 2011, Net Gain 2011a))

6.1.5 If applied separately, these criteria will result in rMCZs being prioritised differently. A number of these criteria are discussed elsewhere in our advice, the MCZ Impact Assessment or the regional MCZ projects final reports. However, an individual site analysis for each criterion is not provided in our advice. JNCC and Natural England **suggest** that Defra may wish to consider the value of a full

prioritisation analysis against the criteria in **paragraph 6.1.4** in order to understand how an individual rMCZ might contribute to each individual criterion.

- 6.1.6 Furthermore, in developing an ecologically coherent MPA network JNCC and Natural England **advise** that international and European obligations should be used to help prioritise rMCZs for designation. This would deliver multiple benefits, and help the UK meet its international and European obligations.
- 6.1.7 Relevant international and European obligations include the MSFD, the OSPAR Convention and the CBD. These all helped to frame the UK Marine Policy Statement (HM Government 2011) and each has an explicit objective to establish networks of MPAs:
- MSFD: Establish coherent and representative networks of MPAs contributing to Good Environmental Status of Europe’s seas by 2016 (European Union (2008) Article 5(2) and 13(4))
 - OSPAR Convention: Establish an ecologically coherent network of MPAs in the North-East Atlantic by 2012, which is well managed by 2016 (OSPAR 2010)
 - CBD: Establish representative networks of MPAs globally by 2012 (CBD 2004).
- 6.1.8 These obligations are discussed below and recommendations are provided as to how the designation of rMCZs could be prioritised to help the UK meet these obligations.
- 6.1.3 Marine Strategy Framework Directive**
- 6.1.9 The overarching goal of the MSFD is to achieve ‘Good Environmental Status’ (GES) across Europe’s marine environment by 2020. The Directive describes 11 qualitative descriptors for determining GES, and states that a programme of measures should be adopted by Member States to achieve or maintain GES (European Union 2008). Examples of the types of measures, such as communication, stakeholder involvement and raising public awareness, are described in Annex VI of the Directive. However, the establishment of spatial protection measures, which will contribute to coherent and representative networks of MPAs, are the only measures named specifically by the Directive and these must be included in the programmes of measures (Article 13(4)⁵³).
- 6.1.10 It is clear then that the Commission sees the establishment of MPAs and MPA networks as being one of the measures that should be used to achieve GES through the MSFD. Moreover, Government recognises that the MPA network in the UK will form an integral element of the UK’s programme of measures for GES (HM Government 2012). However, the contribution of MPAs and MPA networks to each of the 11 qualitative descriptors is difficult to quantify because these measures are not exclusively referred to within any of the descriptors or their associated criteria (European Commission 2010, HM Government 2012).
- 6.1.11 Nevertheless, it is anticipated by Government that MPAs will play a significant role in supporting the achievement of a number of GES descriptors and proposed targets – in particular those associated with Descriptor 1: biological diversity and Descriptor 6: seafloor integrity (HM Government 2012).
- 6.1.12 JNCC and Natural England **advise** that MPAs, including rMCZs, which offer protection to predominant and special habitats can support achievement of GES under the MSFD by providing a contribution to the proposed targets for biological diversity (D1) and seafloor integrity (D6), both in terms of habitat quality and quantity targets. Quality targets relate to actual habitat condition or state, whilst quantity targets relate to habitat extent and also how much of a habitat type should be in an acceptable condition in order for it to be considered at GES (**Figure 12**).

⁵³ Article 13 (Programmes of measures) states: “Programmes of measures established pursuant to this Article shall include spatial protection measures, contributing to coherent and representative networks of marine protected areas, adequately covering the diversity of the constituent ecosystems”.

6.1.13 JNCC and Natural England **advise** that habitats protected in MPAs, when their conservation objectives are achieved, could contribute to the left-hand side of the blue vertical line in **Figure 12** both in terms of quality (habitats are in favourable condition) and quantity (amount of habitats in favourable condition).

6.1.14 JNCC and Natural England **advise** that rMCZs could be prioritised based on their contribution to the GES descriptors of biological diversity (D1) and seafloor integrity (D2), and in particular their contribution towards the proposed GES targets for predominant and special habitats.

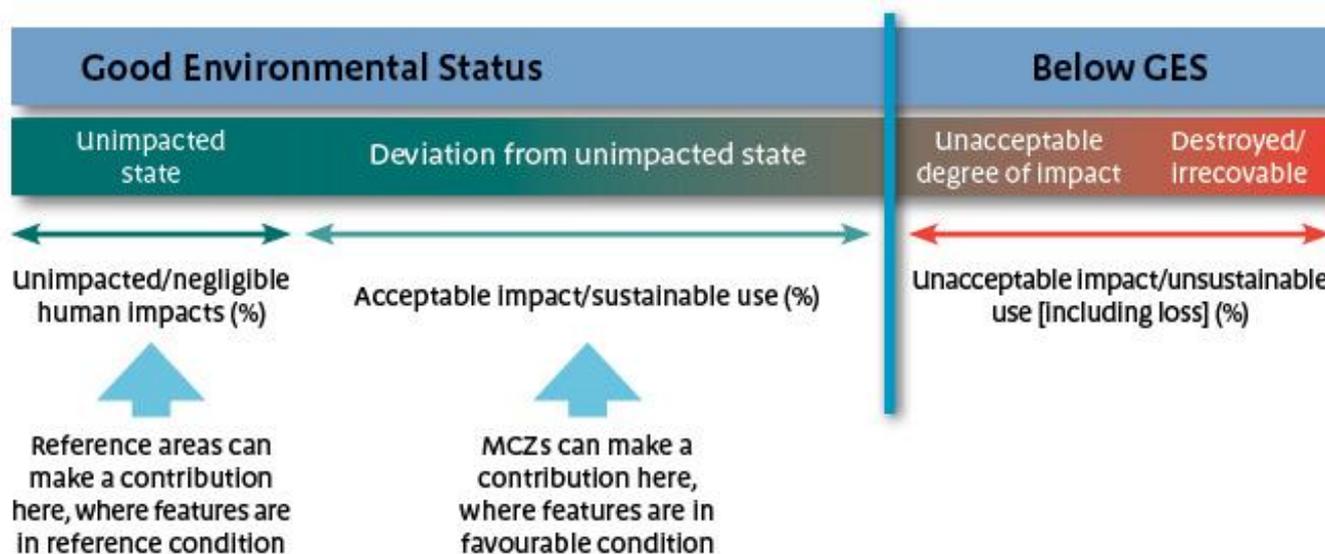


Figure 12 Conceptual diagram showing the potential contribution of MPAs and reference areas towards meeting the quality and quantity aspects of GES for benthic habitats under the MSFD*

Figure modified from Moffat et al. (2011 (in draft)).

Note: *The coloured gradient bar represents a change in habitat quality (or condition) from an unimpacted state (green) to where the habitat has been destroyed (red). The coloured horizontal arrows give an example of how much (quantity or extent) of a habitat should be in a particular condition. The black line represents both:

- i. The GES quality (or condition) threshold beyond which GES is not achieved. To the right of the line the habitat is too impacted to be considered in GES; and
- ii. The GES quantity (or extent) threshold showing the proportion of each habitat that needs to be at a certain condition in order to achieve GES. To the right of the line is the area/proportion of each habitat that can be exposed to unacceptable impact/loss whilst still ensuring the habitat as a whole remains in GES.

6.1.15 JNCC and Natural England **advise** that reference areas can play a key role in understanding reference conditions for a number of benthic habitats, and in the future could provide a direct contribution to the achievement of some of the proposed targets for GES in their own right (see **Figure 12**). The UK Marine Monitoring and Assessment Strategy Healthy and Biologically Diverse Seas Evidence Group (HBDSEG) advise that the most scientifically robust baseline for benthic habitats is ‘reference conditions’. An understanding of reference conditions for benthic habitats will enable the UK to set more ecologically meaningful targets for the indicators identified under the biodiversity descriptors of GES (ICG COBAM 2012, Moffat, et al. 2011 (in draft)). Reference conditions are described by OSPAR as a state of a habitat (that is, its condition, extent and distribution) where human impacts are negligible, and this condition could be ascertained through studying the habitats within reference areas (ICG COBAM 2012). Monitoring the recovery of these areas to reference condition will be incredibly valuable in supporting the accurate setting of baselines for benthic habitats and their associated species. In addition, because the establishment of reference conditions is a requirement of the Water Framework Directive (WFD) (European Union

2000), reference areas may also help to define reference condition for WFD purposes in transitional and coastal waters.

6.1.4 The Convention for the Protection of the marine environment of the North-East Atlantic

6.1.16 [Section 2.2](#) of our advice describes how guidance from the OSPAR Commission was used in the development of the ENG, and how Defra's seven network design principles capture the themes of the OSPAR Commission guidance. The OSPAR Commission recommend that a network of MPAs in the North-East Atlantic should be ecologically coherent by 2012 and well managed by 2016 (OSPAR 2010). The aims of this MPA network are to:

- a) protect, conserve and restore species, habitats and ecological processes which have been adversely affected by human activities;
- b) prevent degradation of, and damage to, species, habitats and ecological processes, following the precautionary principle; and
- c) protect and conserve areas that best represent the range of species, habitats and ecological processes in the maritime area.

6.1.17 Guidance from the OSPAR Commission recommends that aim (a) can partly be addressed through the identification of MPAs for those species and habitats on the OSPAR list of threatened and/ or declining species and habitats, where MPAs are an appropriate measure (OSPAR 2006-3, OSPAR 2008). The ENG includes OSPAR threatened and/or declining species and habitats as FOCl and requires MCZs to be identified for those features where MCZs are considered an appropriate measure. JNCC and Natural England **advise** that the designation of rMCZs should be prioritised to ensure that these OSPAR threatened and/or declining species and habitats are represented within MPAs in the Defra marine area.

6.1.18 The OSPAR Commission recommends that the European Nature Information System (EUNIS) habitat classification⁵⁴ developed by the European Topic Centre on Biological Diversity (Davies, Moss and Hill 2004, OSPAR 2006-3) should be used to characterise the marine environment, and that EUNIS Level 3 habitat types should be used to assist the implementation of aim (c). JNCC and Natural England **advise** that because the broad-scale habitats listed in the ENG are equivalent to the EUNIS Level 3 habitats⁵⁵, rMCZs that contain these habitats should be prioritised for designation to ensure that these features are represented within MPAs in the Defra marine area.

6.1.19 The same guidance (OSPAR 2006-3) also recommends that in achieving aim (c), MPAs should be selected to reflect biogeographic variation. At the scale of the OSPAR Maritime area, the Dinter (2001) biogeographically determined regions are recommended for use, but the OSPAR Commission recommends the use of finer scale subdivisions within Contracting Party waters to support the practical application of biogeographic representation.

6.1.20 The ENG recognised the importance of fine-scale biogeography, but for practical reasons recommended that the network design principles should initially be applied at the scale of the regional MCZ project areas (which were partially determined by administrative and political boundaries). [Section 4.2](#) of our advice begins to consider the contribution of individual rMCZs towards protecting features in the Charting Progress 2 regional seas (fine-scale biogeographic regions, not based on administrative or political boundaries (UKMMAS 2010)). JNCC and Natural England **advise** that the designation of rMCZs should be prioritised to ensure that features are represented in each Charting Progress 2 regional sea. This advice meets the recommendation from

⁵⁴ The EUNIS habitat types classification is a comprehensive pan-European classification system; it covers all types of habitats from natural to artificial, from terrestrial to freshwater and marine. Available at <http://eunis.eea.europa.eu/habitats.jsp>

⁵⁵ In total there are 56 marine EUNIS Level 3 habitat types. In the ENG, 25 EUNIS Level 3 habitats were discounted from the guidelines associated with the principle of representativity and a further nine EUNIS Level 3 deep-sea bed habitats were combined into a single habitat termed 'deep-sea bed' (see Annex 2 of the ENG for further information).

the OSPAR Commission regarding the use of finer scale biogeographic subdivisions and it provides a strong ecological basis for developing a MPA network, thus ensuring that fine-scale biological variation is represented within the MPA network.

6.1.5 Convention on Biological Diversity

6.1.21 As a signatory to the CBD, the UK is committed to establishing national strategies and action plans to conserve, protect and enhance biological diversity. One of the objectives under the CBD is to establish representative networks of MPAs globally by 2012 (COP VII/28). More recently, the CBD Strategic Plan for Biodiversity 2011–2020 and the Aichi targets included a percentage target specific to protected areas:

- by 2020, at least ... 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes (Aichi Biodiversity Target no. 11; (CBD 2010a)).

6.1.22 As part of the UK MPA network, rMCZs will automatically contribute to meeting these CBD and Aichi targets. However, more specific objectives for the UK relate to the species and habitats listed on the UK Priority List of Species and Habitats, known as the Biodiversity Action Plan (BAP) list. This list is the UK Government's response to signing the CBD at the 1992 Rio Earth Summit (BRIG 2007). In England, these habitats and species have also been identified as habitats and species of principal importance for the conservation of biodiversity under The Natural Environment and Rural Communities Act 2006 (Section 41⁵⁶).

6.1.23 The FOCI listed in the ENG include species and habitats on the UK BAP priority list, where MCZs are considered an appropriate conservation measure⁵⁷. JNCC and Natural England **advise** that the designation of rMCZs should be prioritised to ensure that these species and habitats are represented within MPAs in the Defra marine area.

6.1.6 Summary

6.1.24 Designating rMCZs will help the UK achieve the objectives of the MSFD, the OSPAR Convention and the CBD in that they will contribute to an ecologically coherent network of MPAs. However, the more specific aims of these three obligations should be used to help to guide further prioritisation of rMCZs for designation.

6.1.25 In particular the MSFD, the OSPAR Convention and the CBD all recommend that certain species and habitats are represented, replicated and protected in MPA networks. These species and habitats are broadly, if not directly, equivalent to the broad-scale habitats and FOCI listed in the ENG.

6.1.26 Many of the broad-scale habitats and FOCI are already protected in our current MPAs (for example, some FOCI are designated features of Special Areas of Conservation). As such, JNCC and Natural England **advise** that designation of rMCZs should be prioritised to ensure sufficient representation and replication of those broad-scale habitats and FOCI that are not protected within existing MPAs in the Defra marine area.

6.1.27 Moreover, JNCC and Natural England **advise** that the sufficient representation and replication of broad-scale habitats and FOCI should take account of finer-scale biogeographic variation at the scale of the Charting Progress 2 regional seas.

⁵⁶ In the marine area, the Natural Environment and Rural Communities Act 2006 only applies to English inshore waters.

⁵⁷ For some species, MCZs were not considered to be an appropriate conservation mechanism because they were already listed in the Habitats and Birds Directives, were highly mobile across our seas, or vagrant to the area of the MCZ Project.

6.1.28 Finally, JNCC and Natural England **advise** that in principle the establishment of reference areas for a range of benthic habitats can help to support our understanding of reference conditions, and provide a direct contribution to achieving some of the proposed targets for GES across our seas. However, as advised by JNCC and Natural England in [Section 4.1](#) the recommended reference areas may need to be reconsidered by Defra

6.2 Advice to Government on assessing the highest risk Marine Conservation Zones

Advice to Defra

Natural England **advises** that 33 inshore recommended Marine Conservation Zones (rMCZs) are of higher risk of damage or deterioration and have a stronger case for earlier designation as MCZs.

Natural England **advises** that 11 of the 33 inshore rMCZs have an overall higher risk of damage or deterioration to non-sensitive and sensitive features. These sites are:

- South of Falmouth (FS 31)
- Tamar Estuary (FS 27)
- The Isles of Scilly (FS 35) – sub-site Bristows to the Stones (FS 35d)
- Chesil Beach and Stennis Ledges (FS 19)
- Hythe Bay (BS 26)
- Folkestone Pomerania (BS 11.4)
- Norris to Ryde (BS 19)
- Bembridge (BS 22)
- Kingmere (BS 16)
- Sefton Coast (ISCZ 13)
- Hilbre Island Group (ISCZ 14)

Natural England advises that the remaining 22 inshore rMCZs are at high risk because they contain highly sensitive features which are subject to one or more pressures causing damage or deterioration but did not achieve the risk threshold used above because of the mix of sensitive and non-sensitive features. These sites are

- Cumbrian Coast (ISCZ 11)
- Poole Rocks (FS 14)
- Lundy rMCZ (FS 41)
- The Manacles (FS 32)
- Studland Bay (FS 15)
- Torbay (FS 22)
- The Isles of Scilly (FS 35) (subs-sites Bishop to Crim (FS 35c), Gilstone to Gorregan (FS 35e), Hanjague to Deep Ledge (FS 35f), Lower Ridge to Innisvoulis (FS 35h), Men a Vaur to White Island (FS 35i), Pennenis to Dry Ledge (FS 35j), Plympton to Spanish Ledge (FS 35k), Smith Sound Tide Swept Channel (FS 35l))
- Skerries Bank and Surrounds (FS 24)
- Whitsand and Looe Bay (FS 28)
- Padstow Bay (FS 38)
- Dover to Deal (BS 11.1)
- Dover to Folkstone (BS 11.2)
- Beachy Head West (BS 13.2)
- Beachy Head East (BS 13.1)
- Offshore Brighton (BS 14)
- Swale Estuary (BS 10)
- Yarmouth to Cowes (BS 23)

- *Thames Estuary (BS 05)*
- *Stour and Orwell Estuaries (BS 02)*
- *The Needles (BS 20)*
- *The Medway Estuary (BS 06)*
- *Thanet Coast (BS 07)*

*JNCC **advises** that 15 fully offshore rMCZs are at higher risk of damage or deterioration and have a stronger case for earlier designation as MCZs. These sites are:*

- *The Canyons (FS 01)*
- *South-West Deeps (West) (FS 03)*
- *North-West of Jones Bank (FS 04)*
- *Greater Haig Fras (FS 05)*
- *East of Jones Bank (FS 06)*
- *South of Celtic Deep (FS 09)*
- *Celtic Deep (FS 10)*
- *East of Celtic Deep (FS 11)*
- *Western Channel (FS 12)*
- *South East of Falmouth (FS 30)*
- *East of Haig Fras (FS 07)*
- *Compass Rose (NG 12)*
- *Slieve Na Griddle (ISCZ 07)*
- *South Rigg (ISCZ 06)*
- *Markham's Triangle (NG 07).*

*JNCC and Natural England **advise** that 11 joint rMCZs are at higher risk of damage or deterioration and have a stronger case for earlier designation as MCZs. These sites are:*

- *East Meridian (BS 29)*
- *East Meridian – Eastern Side (BS 29.2)*
- *Mud Hole (ISCZ 01)*
- *Cape Bank (FS 36)*
- *Holderness offshore (NG 09)*
- *Inner Bank (BS 31)*
- *South of the Isles of Scilly (FS 13)*
- *Ordford Inshore (NG 01b)*
- *West of Walney (ISCZ 02)*
- *West of Walney (extension) (ISCZ 02a&b)*
- *South Dorset (FS 16)*

Key messages

A feature within a MCZ is considered to be at risk of damage or deterioration if it is vulnerable to a pressure arising from human activities. A feature is considered vulnerable to a pressure when it is both sensitive to, and exposed to, that pressure.

The risk to features is assessed using information from the vulnerability assessments undertaken by the regional MCZs and JNCC and Natural England staff.

6.2.1 Aim

6.2.1 This section aims to review the vulnerability of features in rMCZs to provide advice on what are currently understood to be the rMCZs likely to be subject to damage or deterioration.

6.2.2 Introduction

6.2.2 This section of JNCC and Natural England's advice is intended to inform Defra of our view of the rMCZs considered to be at higher risk of damage or deterioration from pressures arising from human activities. This risk assessment may be used in combination with other advice, namely, confidence in feature presence and extent ([Section 5.1](#)), confidence in feature condition [Section 5.2](#)) and assessment of features against Ecological Network Guidance (ENG) guidelines ([Section 4.1](#)), to inform decisions regarding where designation and subsequent management of activities may need to be prioritised.

6.2.3 Definition of risk

6.2.3 A feature within a MCZ is considered to be at risk of damage or deterioration if it is vulnerable to a pressure arising from human activities. A feature is considered vulnerable to a pressure when it is both sensitive to, and exposed to that pressure. Therefore, the higher a feature's vulnerability to a pressure, the higher the risk of damage or deterioration. Recommended MCZs at higher risk of damage or deterioration may therefore require more urgent management action to remove or reduce adverse pressures in order to begin the recovery process and achieve 'favourable condition'.

6.2.4 The risk assessment uses the data available from the national datasets MB0102 (Tillin, Hull and Tyler-Walters 2010) and MB0106 (Cefas & ABPmer 2010), data collected by the regional MCZ projects and the vulnerability assessments provided in the final recommendations. The datasets (national and regional) are often aggregated to a high level and less suitable for detailed site-specific assessments, although they are nevertheless suitable to offer an initial view to Government on which sites and features are at higher risk at the present time.

6.2.5 Our advice on the draft conservation objectives is provided in [Section 4.2](#) and highlights the differences between the conservation objectives recommended by the regional MCZ projects and our recommendations.

6.2.6 This section of JNCC and Natural England advice contains:

- The methodology, caveats and limitations of the risk analysis
- An overview of the features that are highly sensitive to damage or disturbance
- JNCC and Natural England's advice on the recommended MCZs at higher risk:
 - Higher risk inshore rMCZs
 - Inshore rMCZs with sensitive features
 - Higher risk offshore rMCZs
- Conclusions on the higher risk rMCZs.

6.2.4 Methodology, caveats and limitations

6.2.7 The JNCC and Natural England document entitled, *Assessing Marine Conservation Zones Most at Risk (Technical Protocol G⁵⁸)* (Natural England & JNCC 2012g) set out the process used to complete the rMCZ risk assessment.

6.2.8 The assessment of rMCZs at higher risk will be informed by the results from the vulnerability assessments undertaken by the regional MCZ projects which were provided alongside the final recommendations. This assessment will also use the advice that the statutory nature conservation

⁵⁸ This protocol has only recently been formally published and version 2.7 was used for this assessment.

bodies (SNCBs) provided to the regional MCZ projects on draft vulnerability assessments following the methodology described in protocol F and the MCZ Conservation Objective Guidance (Natural England & JNCC 2011a).

6.2.9 The approach in protocol G is recommended because it uses the same information on which the vulnerability assessments were based as well as, where feasible, additional information made available since they were undertaken. It also provides a pragmatic approach to assessing risk to rMCZs, providing results in a useful format within the time available.

6.2.10 A site risk score for each rMCZ has been calculated using the equation in

$$rMCZ \text{ site risk score (\%)} = \frac{n \text{ (features with moderate to high vulnerability to any pressures to which they are exposed)}}{n \text{ (features in rMCZ being put forward for designation)}} \times 100$$

6.2.11 **Figure 13** (see example shown in **Table 30**), that is, the proportion of features within a site which are considered moderately or highly vulnerable to one or more pressures (and therefore has a ‘recover’ conservation objective to achieve favourable condition). Please note the Isles of Scilly rMCZ has several sub-sites within it. Because of the different levels of activity occurring within the sub-sites each has been scored separately. All site risk scores are provided [Annex 10](#).

$$rMCZ \text{ site risk score (\%)} = \frac{n \text{ (features with moderate to high vulnerability to any pressures to which they are exposed)}}{n \text{ (features in rMCZ being put forward for designation)}} \times 100$$

Figure 13 Equation to calculate site risk score

6.2.12 For the purposes of this assessment it is necessary to make the assumption that all pressures are equal in intensity and that all moderate and high vulnerabilities are treated as contributing equally to the site risk score.

Table 30 Example of calculated risk score

rMCZ Site	Feature (s)	Objective	Number of features within a site with mod-high vulnerability to any pressures i.e. features with recover objectives	rMCZ site risk score
B	Subtidal mud	Recover	4	4/5 x100 = 80%
	Subtidal coarse sediment	Maintain		
	Deep sea mud habitat	Recover		
	Seapen & burrowing megafauna	Recover		
	Subtidal sand	Recover		

- 6.2.13 The site risk score cannot be calculated for recommended reference areas because feature condition was not assessed prior to setting the conservation objectives. Following the MCZ Conservation Objectives Guidance (Natural England & JNCC 2011a), all features in recommended reference areas were assigned a recover objective, unless there was evidence to indicate that no extractive, depositional and human-derived disturbing or damaging activities were occurring. In the overwhelming majority of instances, applying the above calculation to recommended reference areas would result almost entirely in 100% site risk scores. This would not reflect relative site risk and provide no way of highlighting to Government, those recommended reference areas at higher risk of damage or deterioration from pressures arising from human activities.
- 6.2.14 A pragmatic approach is needed to resolve the issue as to how to use the site risk score to identify which rMCZs are at higher risk of damage or deterioration. In the final recommendations, there are generally far fewer numbers of features being put forward in sites in the offshore area compared to the inshore. This is a reflection of the heterogeneity of inshore areas leading to more features and also many of the FOCI being found in shallower waters (partly due to greater survey effort here).
- 6.2.15 As can be seen from the risk equation in **Figure 13** above, site risk is a function of the number of features in a site. Therefore, given the disparity between the inshore and offshore, it is more likely that offshore sites will achieve higher risk scores than inshore sites and not necessarily because they are at higher risk of damage.
- 6.2.16 To take account of this for the purposes of the advice, rMCZs in the offshore with 100% risk scores are considered at higher risk while inshore sites with risk scores exceeding 50% are considered at higher risk. The sites in the offshore and inshore meeting these criteria are listed in **Table 31** and **Table 32** and accompanied by an explanation where the risks arise in respect to each site's features. The supporting explanation makes use of the detail provided in the vulnerability assessments and any additional information available.
- 6.2.17 In addition to identifying which rMCZs are at higher risk of damage through the site risk scores, it is necessary to highlight in our advice those sites where highly sensitive features (with moderate to high confidence in the sensitivity score) are present and considered moderately to highly vulnerable to pressures arising from human activities. These features are known to be more easily damaged or more susceptible to deterioration and it is important to highlight in our advice where they occur so that urgent action is prioritised in order to avoid irrevocable damage or loss and begin the recovery process to achieve favourable condition.
- 6.2.18 To make site-based risk calculations in this section for those sites proposed in the Balanced Seas region which include features defined through the Regional Environmental Characterisation (REC) work, Natural England have used only the features proposed by the RSG for designation. Therefore, all back-translated features, which are stated as 'not proposed' in either the Balanced Seas final or amendments reports, have been removed from this assessment.

6.2.4.1 Quality assurance of site risk scores

- 6.2.19 JNCC and Natural England marine regional advisers and marine sector specialists completed a sense check⁵⁹ of the results and a review of the site risk scores. The sense check also needs to include a review of the narrative to ensure those sites at higher risk of damage and deterioration and features which are highly sensitive are included in the narrative and the risks to them adequately described. The sense check used JNCC and Natural England sector and site-specific knowledge.

⁵⁹ A sense check is form of validation by regional advisers and specialists using their local, national, ecological and sector knowledge to check that the assessment results are appropriate ('sensible') to the site under consideration.

6.2.20 The results regarding the site risk scores and lists of higher risk sites and highly sensitive features with recover objectives were compared to the regional MCZ project recommendation reports as part of the sense check, to ensure that all the information available has been used and will include any new evidence, where feasible, since the completion of the final recommendations.

6.2.21 The method to assess the site risk score produces a coarse statement on current rMCZ vulnerability. The site risk score is not intended to inform discussions regarding appropriate management measures. Rather, it is only intended to present our understanding on rMCZs with higher vulnerability to help inform decision making regarding which sites to designate in 2013.

6.2.4.2 Limitations and caveats

6.2.22 The rMCZs and reference areas at greatest risk are assessed using best available evidence, incorporating the data provided by the regional MCZ projects on local activities, as well as national datasets. We have not collected new data to inform our analysis.

6.2.23 There is an inherent bias towards areas that are data rich, such as areas of high levels of marine activities, economic development and licensed activities. There is therefore a risk that informal activities or activities that are not recorded will not have been assessed and yet may place the features at risk of damage or deterioration.

6.2.24 The results are calculated by simple reference to the number of features within an rMCZ rather than being based on or including reference to the spatial extent of the feature(s). It is therefore possible for a very high risk score to be attributed to an rMCZ when the area including the features that are considered at high risk is a small proportion of the total area of the rMCZ while other lower risk features make up the majority of the site. It is likely that a high risk score will also correspond to a large area of an rMCZ because of the guidance on the minimum size of the recommended features (Natural England and the Joint Nature Conservation Committee 2010).

6.2.25 Complex sites with a high number of sensitive and non-sensitive features generally have a lower risk score, masking the vulnerability of the site and distorting the likelihood of further damage and disturbance.

6.2.26 The approach taken to assign different site risk score criteria to identify higher risk sites for inshore (more than 50%) and offshore (100%) areas, whilst pragmatic, is arbitrary. It may mean that some rMCZs in the offshore, those for example with less than 100% risk, will not be identified as at higher risk, but they may be more at risk of damage or deterioration than sites in the higher risk category inshore. While the quality assurance (QA) process can sense check this to some degree, the issue may still remain. JNCC and Natural England may need to provide further site-specific advice in instances where they feel a site is unnecessarily being put forward for urgent action or vice versa.

6.2.27 To only focus urgent action on features where current activity is regarded as presenting a higher risk to sites, may mean that highly sensitive features with 'maintain' objectives could be lost, should an activity occur in the immediate future. Some highly sensitive features, for example, cold-water coral reefs, can be destroyed or irreparably damaged in a single event like the pass of a bottom trawl. The current protocol gives no consideration to future risk or the likelihood of activities occurring in the immediate future and as such does not identify the risk of loss or irreparable damage to highly sensitive features which are not currently regarded as being moderately or highly vulnerable to any pressures.

6.2.28 For the purposes of this assessment it has been necessary to make the assumption that all pressures and all moderate to high vulnerabilities to pressures contribute equally to the site risk score. A feature may have a recover objective recommended for it because it has a moderate to

high vulnerability to one pressure, while another feature may have the same objective due to six pressures. The protocol does not take account of this in the calculation of site risk, which can mean that, in the examples mentioned, both features would be considered as equally at risk of damage or deterioration. JNCC and Natural England may therefore need to provide further site-specific advice in instances where they feel a site is unnecessarily being put forward for urgent action or vice versa.

6.2.29 The confidence and certainty in the risk scores for rMCZs included in this section is a direct relation to the level of confidence in feature extent and condition as stated in [Section 5.1](#) of the JNCC and Natural England advice. The explanation included for rMCZs in this section is intended to provide additional qualitative certainty to the risk score.

6.2.5 Highly sensitive features

6.2.30 The MB0102 sensitivity matrix highlighted a number of features that are highly sensitive to one or more pressures (Tillin, Hull and Tyler-Walters 2010) with a moderate to high confidence in the assessment. These features are so sensitive that even one event, such as an abrasive activity, could significantly damage or disturb the rMCZ feature, and thus significantly affect ability to achieve the conservation objectives.

6.2.31 The following list contains a summary of the outputs from the MB0102 sensitivity matrix for broad-scale habitats (BSHs) and habitat Features of Conservation Importance (FOCI) in the Defra marine area, indicating that these features are highly sensitive to one or more pressures. For these features the MB0102 sensitivity matrix Tillin *et al.* (2010) conclude there is a moderate to high confidence in the assessment.

- Coastal salt marsh and saline reedbeds
- Intertidal sediments dominated by aquatic angiosperms
- Deep-sea mud
- Deep-sea trenches and canyons
- Cold-water coral reefs (habitat FOCI)
- Seagrass beds
- Maerl beds
- Peat and clay exposures
- Subtidal chalk
- Tide-swept channels
- Native oyster *Ostrea edulis* beds
- Horse mussel *Modiolus modiolus* beds
- Fragile sponge and anthozoan communities on subtidal rocky habitats
- Sheltered muddy gravels
- Honeycomb worm *Sabellaria alveolata* reefs
- Ross worm *Sabellaria spinulosa* reefs

6.2.32 The following list contains a summary of the outputs from the MB0102 sensitivity matrix for species FOCI indicating that these features are highly sensitive to one or more pressures. For these features the MB0102 sensitivity matrix Tillin *et al.* (2010) concludes there is a moderate to high confidence in the assessment.

- A red seaweed *Cruoria cruoriaeformis*
- Maerl *Phymatolithon calcareum*
- Spiny lobster *Palinurus elephas*
- Peacocks tail *Padina pavonica*
- Sunset cup coral *Leptopsammia pruvoti*

- Maerl *Lithothamnion corallioides*
- Sea fan anemone *Amphianthus dohrnii*
- Lagoon sand shrimp *Gammarus insensibilis*
- Ocean quahog *Arctica islandica*
- Tentacled lagoon-worm *Alkmaria romijni*
- Trembling sea mat *Victorella pavida*
- Native oyster *Ostrea edulis*
- DeFolin's lagoon snail *Caecum armoricum*
- Pink sea-fan *Eunicella verrucosa*
- Long-snouted seahorse *Hippocampus guttulatus* found in seagrass beds
- Short-snouted seahorse *Hippocampus hippocampus* found in seagrass beds
- Stalked jellyfish *Haliclystus auricular* found in seagrass beds
- Stalked jellyfish *Lucernariopsis campanulata* found in seagrass beds

6.2.6 JNCC and Natural England's advice on the recommended Marine Conservation Zones at higher risk

6.2.33 Natural England **advises** that 32 inshore rMCZs are of higher risk of damage or deterioration and have a stronger case for earlier designation as Marine Conservation Zones. Of these, Natural England **advises** that nine inshore rMCZs have a higher risk of damage or deterioration and have a stronger case for earlier designation as Marine Conservation Zones and 23 inshore sites are vulnerable and therefore at risk of damage or disturbance because they contain highly sensitive features and are subject to one or more pressures (**paragraphs 6.2.36 to 6.2.58**).

6.2.34 JNCC and Natural England **advise** that 11 joint rMCZs are at higher risk of damage or deterioration and have a stronger case for earlier designation as Marine Conservation Zones.

6.2.35 JNCC **advises** that 12 fully offshore rMCZs are at higher risk of damage or deterioration and have a stronger case for earlier designation as Marine Conservation Zones (**paragraphs 6.2.63 to 6.2.97**).

6.2.6.1 Inshore rMCZs at higher risk (risk score of 50–100%)

6.2.36 Natural England **advises** that 11 inshore rMCZs have a higher risk of damage or deterioration and have a stronger case for earlier designation as MCZs. This is based on inshore rMCZs that have been assessed by Natural England to have a risk score ranging between 50% and 100% using the evidence provided in the regional MCZ project recommendations and vulnerability assessments, with further assessments through the Natural England sense check and the standardisation of fisheries exposure ([Section 5.2](#) and [Section 4.2](#)). Bembridge (BS 22) has a lower risk score (44%), but due to site-specific factors a higher site vulnerability has been given. JNCC and Natural England also advise that five rMCZs (being led by Natural England) have a higher risk of damage or deterioration. Please refer to **Table 31** and the explanation provided in **6.2.40 to 6.2.56** for the following sites:

- South of Falmouth (FS 31)
- Tamar Estuary (FS 27)
- Cape Bank (FS 36) (joint rMCZ)
- The Isles of Scilly – sub-site Bristows to the Stones (FS 35d)
- Chesil Beach and Stennis Ledges (FS 19)
- South Dorset (FS 16) (joint rMCZ)
- West of Walney (ISCZ 02) (joint rMCZ)
- West of Walney (extension) (ISCZ 02a&b) (joint rMCZ)
- Sefton Coast (ISCZ 13)

- Hilbre Island Group (ISCZ 14)
- Hythe Bay (BS 26)
- Folkestone Pomerania (BS 11.4)
- Norris to Ryde (BS 19)
- Bembridge (BS 22)
- Kingmere (BS 16)
- Orford Inshore (NG 01b) (joint rMCZ).

6.2.37 In Balanced Seas, Kentish Knock East (BS 30) and Utopia (BS 28) have a 100% risk score based on the regional MCZ project recommendations; however, the subsequent Natural England sense check does not agree with the vulnerability assessments of the regional MCZ project for these two sites. The Natural England vulnerability assessment for these sites produces a zero risk score.

6.2.38 We highlight some FOCI in red in **Table 31** because there is good evidence to show that these FOCI are particularly sensitive to the pressures for which the recover objective was set. For these FOCI, the MB0102 sensitivity matrix shows that moderate to high confidence accompanies the assessment of high sensitivity to the relevant pressures, such as surface, shallow and structural abrasion and removal of target and non-target species.

6.2.39 However, we do not highlight in the risk assessment the BSH features which are of particular risk of damage or deterioration. This is because BSHs tend to exhibit natural sub-feature variability in sensitivity to pressures; this is reflected in the MB0102 sensitivity matrix by ranges in sensitivity scores (Tillin, Hull and Tyler-Walters 2010). Following the procedure outlined in the Conservation Objective Guidance (Natural England & JNCC 2011a) a precautionary approach was adopted, where the highest sensitivity score was chosen by default. However, the consequence of choosing a single sensitivity score from a range is that it masks the uncertainty. Therefore, the recover objectives listed in **Table 31** are largely low confidence due to the insufficient evidence available to assess the sensitivities of the features to the pressures to which they are subject.

Table 31 Inshore and Natural England led recommended Marine Conservation Zones at higher risk

NB. HOCI = Habitat of Conservation Importance, SOCI = Species of Conservation Importance

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by Natural England post review ⁶⁰)	Confidence in final recommendation feature condition ⁶¹ (information in brackets indicates where Natural England advises otherwise)	Site risk score (score in brackets advised by Natural England)
Finding Sanctuary	South of Falmouth (FS 31)	Subtidal coarse sediment (A5.1)	Recover	Low	100
		Moderate energy circalittoral rock (A4.2)	Recover	Low	
	Tamar Estuary Site (FS 27)	Intertidal biogenic reef (A2.7)	Maintain (Recover)	Low	0 (100)
		Intertidal coarse sediment (A2.1)	Maintain (Recover)	Low	
		Blue mussel beds (HOCI 1)	Maintain (Recover)	Low	
		Native oyster <i>Ostrea edulis</i> beds (HOCI 14)	Maintain (Recover)	Low	
		Smelt <i>Osmerus eperlanus</i> (SOCI 32)	Not assessed (Recover)	Low	
	European eel <i>Anguilla anguilla</i> (SOCI 31)	Not assessed (Recover)	Low		
	Cape Bank (FS 36)	Moderate energy circalittoral rock (A4.2)	Recover	Low	100
		Spiny lobster <i>Palinurus elephas</i> (SOCI 24)	Recover	Low	
		Subtidal coarse sediment (A5.1)	Recover	Low	
	Isles of Scilly – Bristows to the Stones (FS 35d)	High energy infralittoral rock (A3.1)	Recover	Low	78
		Moderate energy infralittoral rock (A3.2)	Recover	Low	
		High energy circalittoral rock (A4.1)	Recover	Low	
		Moderate energy circalittoral rock (A4.2)	Recover	Low	
Fragile sponge and anthozoan communities on subtidal rocky habitat (HOCI 7)		Recover	Low		

⁶⁰ See review of conservation objectives for details regarding JNCC’s advice on final recommendation conservation objectives.

⁶¹ See confidence in feature condition and review of conservation objectives for further details.

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by Natural England post review ⁶⁰)	Confidence in final recommendation feature condition ⁶¹ (information in brackets indicates where Natural England advises otherwise)	Site risk score (score in brackets advised by Natural England)
		Pink sea-fan <i>Eunicella verrucosa</i> (SOCl 8)	Recover	Low	
		Subtidal coarse sediment (A5.1)	Maintain	Low	
	Isles of Scilly – Bristows to the Stones (FS 35) (cont)	Subtidal mixed sediment (A5.4)	Maintain	Low	78
Finding Sanctuary	Chesil Beach and Stennis Ledges (FS 19)	High energy infralittoral rock (A3.1)	Recover	Low	71
		Subtidal coarse sediment (A5.1)	Recover	Low	
		Pink sea-fan <i>Eunicella verrucosa</i> (SOCl 8)	Recover	Low	
		Native oyster <i>Ostrea edulis</i> beds (HOCl 14)	Recover	Low	
		Subtidal sand (A5.2)	Recover	Low	
		High energy intertidal rock	Maintain	Low	
		Intertidal coarse sediment (A2.1)	Maintain	Low	
	South Dorset (FS 16)	Moderate energy circalittoral rock (A4.2)	Recover	Low	60
		High energy circalittoral rock (A4.1)	Recover	Low	
		Subtidal chalk (HOCl 20)	Recover	Low	
Subtidal coarse sediment (A5.1)		Maintain	Low		
Subtidal mixed sediment (A5.4)		Maintain	Low		
Irish Sea Conservation Zones	Sefton Coast (ISCZ 13)	Peat clay exposures (HOCl 15)	Recover	Low	100
	Hilbre Island Group (ISCZ 14)	Peat clay exposures (HOCl 15)	Recover	Low	100
		Blue mussel beds (HOCl 1)	Recover	Low	

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by Natural England post review ⁶⁰)	Confidence in final recommendation feature condition ⁶¹ (information in brackets indicates where Natural England advises otherwise)	Site risk score (score in brackets advised by Natural England)
Irish Sea Conservation Zones	West of Walney (ISCZ 02)	Subtidal mud (A5.3)	Recover	Mod	100
		Deep water mud habitats (HOCl 13)	Recover	Mod	
		Sea-pens and burrowing megafauna (HOCl 18)	Recover	Mod	
	West of Walney (extension) (ISCZ 02a&b)	Subtidal mud (A5.3)	Recover	Mod	100
		Subtidal sand (A5.2)	Recover	Mod	
		Sea-pens and burrowing megafauna (HOCl_18)	Recover	Mod	
		Mud habitats in deep water HOCl_13	Recover	Mod	
	Balanced Seas	Hythe Bay (BS 26)	Subtidal mud (A5.3)	Recover	Low
Deep water mud habitats (HOCl 13)			Recover	Mod	
Sea-pens and burrowing megafauna (HOCl 18)			Recover	Low	
Balanced Seas	Folkstone Pomerania (BS 11.4)	Moderate energy circalittoral rock (A4.2)	Recover	Low	88 (50)
		Fragile sponge and anthozoan communities on subtidal rocky habitat (HOCl 7)	Recover	Low	
		Honeycomb worm <i>Sabellaria alveolata</i> reefs (HOCl 8)	Recover	Low	
		Ross worm <i>Sabellaria spinulosa</i> reefs (HOCl 16)	Recover	Low	

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by Natural England post review ⁶⁰)	Confidence in final recommendation feature condition ⁶¹ (information in brackets indicates where Natural England advises otherwise)	Site risk score (score in brackets advised by Natural England)
		Subtidal coarse sediment A5.1	Maintain	Low	
		Subtidal sand A5.2	Recover (Maintain)	Mod	
		Blue mussel beds (HOCl 1)	Recover (Maintain)	Low	
		Subtidal sand gravels (HOCl 21)	Recover (Maintain)	Low	
Balanced Seas	Norris to Ryde (BS 19)	Subtidal mud (A5.3)	Maintain (Recover)	Low	33 (67)
		Seagrass beds (HOCl 17)	Recover	Mod	
		Tentacled lagoon worm <i>Alkmaria romijni</i> (SOCl 1)	Maintain	Low	
Balanced Seas	Bembridge (BS 22)	Native oyster <i>Ostrea edulis</i> beds (HOCl 14)	Recover	Low	44
		Native oyster <i>Ostrea edulis</i> (SOCl 22)	Recover	Low	
		Ross worm <i>Sabellaria spinulosa</i> reefs (HOCl 16)	Recover	Low	
		Seagrass beds (HOCl 17)	Recover	Low	
		Sea-pens and burrowing megafauna (HOCl 18)	Recover	Low	
		Maerl beds (HOCl 12)	Recover	Low	
		Tentacled lagoon-worm <i>Alkmaria romijni</i> (SOCl 1)	Maintain	Low	
		Lagoon sand shrimp <i>Gammarus insensibilis</i> (SOCl 9)	Maintain	Low	

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by Natural England post review ⁶⁰)	Confidence in final recommendation feature condition ⁶¹ (information in brackets indicates where Natural England advises otherwise)	Site risk score (score in brackets advised by Natural England)
		<i>Haliclystus auricular</i> (SOCl 14)	Maintain	Low	
		Long-snouted seahorse <i>Hippocampus guttulatus</i> (SOCl 15)	Maintain	Low	
		Short-snouted seahorse <i>Hippocampus hippocampus</i> (SOCl 16)	Maintain	Low	
		Mud habitats in deep water (HOCl 13)	Recover	Low	
		Starlet sea anemone <i>Nematostella vectensis</i> (SOCl 21)	Maintain	Low	
		Peacocks tail <i>Padina pavonica</i> (SOCl 23)	Maintain	Low	
Balanced Seas	Bembridge (BS 22) (cont)	Lagoon snail <i>Paludinella littorina</i> (SOCl 25)	Maintain	Low	44
		Subtidal mixed sediments (A5.4)	Maintain	Low	
		Subtidal mud (A5.3)	Recover	Low	
		Subtidal sand (A5.2)	Maintain	Low	
	Kingmere (BS 16)	Subtidal chalk (HOCl 20)	Recover	Low	75
		Black Bream <i>Spondyllosoma cantharus</i> (non-ENG 1)	Recover	Low	
		Moderate energy infralittoral rock (A3.94)	Recover	Low	
		Native oyster <i>Ostrea edulis</i> (SOCl 22)	Maintain	Low	
Net Gain	Orford Inshore (NG 01b)	Subtidal mixed sediments A5.4	Recover	Low	100

- 6.2.40 In Hythe Bay (BS 26), in the regional MCZ project recommendations the three features are assessed to have a recover conservation objective because they are moderately to highly vulnerable to the removal of target and non-target species and to physical damage from shallow and surface abrasion. According to the regional MCZ project recommendations, the pressures are associated with fishing and primarily benthic trawling; at least 21 benthic trawlers and eight scallop dredgers use this site as part of their area of operation.
- 6.2.41 In South of Falmouth (FS 31), in the regional MCZ project recommendations the two BSH features are assessed to have recover conservation objectives due to moderate to high vulnerability to removal of target and non-target species and physical damage from abrasion (shallow, structural and surface). These pressures are associated with the physical impacts of mobile fishing gear and bottom towed gear. According to the regional MCZ project and the Cornwall Inshore Fisheries and Conservation Authority, there is a high intensity of gear working in the area including some foreign vessels (for example, rock-hopper and otter trawls).
- 6.2.42 In the Tamar Estuary Site (FS 27), according to the regional MCZ project recommendations the vulnerability assessment of the six features concluded that no pressures were occurring in the rMCZ that would cause any damage or disturbance. The subsequent JNCC and Natural England sense check, based on the Water Framework Directive assessment by the Environment Agency (EA) of the chemical status for the Tamar Estuary, concluded that all site features are moderately to highly vulnerable to water quality pressures caused by sewerage disposal, industrial and agricultural effluent discharges, which are exacerbated by sediment erosion in the upper catchment. The EA's Water Framework Directive assessment has recorded a fail for this site and is referred to in the South-West River Basin Management Plan (Environment Agency 2009).
- 6.2.43 In Cape Bank (FS 36), in the regional MCZ project recommendations the three features are assessed to have a recover objective because they are moderately to highly vulnerable to removal of target and non-target species and physical damage from abrasion (shallow, structural and surface). According to the regional MCZ project recommendations, these pressures are associated with benthic trawling and potting. There is evidence that spiny lobster *Palinurus elephas* is in unfavourable condition in all south-west waters due to viability of the population being highly sensitive to removal of individuals (Goñi and Latrouite 2005).
- 6.2.44 In the Isles of Scilly – Bristows to the Stones (FS 35d), please note this part of the Isles of Scilly (FS 35d) is considered separately in the risk assessment from other parts of Isles of Scilly (FS 35) due to a distinctly higher level of activity which does not occur in other areas of FS 35. According to the regional MCZ project recommendations seven of the nine features have a recover conservation objective due to their moderate to high vulnerability to removal of target and non-target species, shallow abrasion/penetration/damage to seabed and structural abrasion caused by benthic trawling. Despite a byelaw in place that covers the majority of the site, there is remote-operated survey evidence from Plymouth Marine Laboratories (Sommerfield 2003) showing that significant damage is still being done or has recently occurred as a result of the operations of scallopers around the Seven Stones. Some other trawls work around the area, but in small numbers and not regularly. Data from the Cornwall Fish Producers Organisation (CFPO) indicates moderately intense use of mobile gears throughout the rMCZ.
- 6.2.45 There is evidence (Goñi and Latrouite 2005) that spiny lobster *Palinurus elephas* is in unfavourable condition in all south-west waters. Potting vessels operate in low numbers from the Isles of Scilly and the mainland, and work in the rMCZ. Data from the CFPO indicates that there is moderate intensity of usage of mobile gears throughout the rMCZ, but the species is highly sensitive to the removal of individuals even from by-catch. Due to the mobile nature of the species and the lack of

scientific understanding with respect to its migration and biology, based on the expert judgement of Natural England regional advisers it is advised that in order to recover populations of the species to favourable condition in south-west waters, a mechanism that covers areas larger than individual rMCZ sites would be required, in addition to any measure introduced in individual rMCZs.

- 6.2.46 In Chesil Beach and Stennis Ledges (FS 19), the regional MCZ project recommendations assessed five features to have recover conservation objectives due to moderate to high sensitivity to abrasion and removal of target/non-target species by fishing activity in the area. According to the regional MCZ project recommendations within the rMCZ, there is moderate intensity small vessel activity and very low intensity large vessel activity, with scallop dredging exerting the greatest pressure and beam trawling also contributing to the vulnerability of these sensitive habitats. There is a seasonal ban on demersal towed gear out to one nautical mile from Chesil Beach from May to October. Anecdotal evidence indicates that parts of the Stennis Ledges, where much of the coarse sediment is situated, was broken down five or so years ago following significant scallop dredging activity in the area, but there is relatively less scallop dredging now. The area around Stennis is primarily potted, and also scallop dredged by local vessels occasionally with agreement from the potters. There are also visiting scalloping boats who fish without local agreement. Fishing with towed gear, at reduced intensity, continues in the area, and activity resulting from the displacement of fishers from the Lyme Bay (Statutory Instrument) Closed Area (2008) is also likely to have increased.
- 6.2.47 Pink sea-fan *Eunicella verrucosa* is highly sensitive to shallow abrasion and non-targeted removal by benthic trawling at the site. The greatest risk is from moderate (but variable) scallop dredging activity, and to a lesser extent beam trawling. Displacement of fishers from the Lyme Bay (Statutory Instrument) Closed Area (2008) is likely to have increased activity at the site (Mangi, et al. 2011).
- 6.2.48 Native oyster *Ostrea edulis* is moderately sensitive to abrasion and highly sensitive to targeted removal by benthic trawling at the site. The greatest risk is from moderate (but variable) scallop dredging activity, and to a lesser extent beam trawling. Fishers displaced from the Lyme Bay (Statutory Instrument) Closed Area (2008) are likely to have increased activity in the area (Mangi, et al. 2011).
- 6.2.49 In South Dorset (FS 16), the features of high energy circalittoral rock and moderate energy circalittoral rock are highly sensitive to removal of target and non-target species and abrasion by benthic trawling. Although this activity occurs at relatively low intensity at the site, the features are considered to be moderately vulnerable to the current fishing pressure.
- 6.2.50 Subtidal chalk is highly sensitive to abrasion by benthic trawling, albeit relatively low intensity, at the site. JNCC and Natural England (2011b) also clearly states that there is incompatibility between this type of feature and fishing activity. There is also recreational angling in the site focused around wreck sites. The boats anchoring in the area, when fishing predominantly around the north-west of the rMCZ, will also cause abrasion to this sensitive habitat.
- 6.2.51 In Folkestone Pomerania (BS 11.4), the regional MCZ project recommendations assessed seven of the eight features to have recover conservation objectives due to the exposure to fishing activities. Throughout the site there is benthic trawling (at least 13 vessels operating) which can cause removal of non-target species and shallow abrasion to all the features recommended in the site (Balanced Seas 2011a). Fragile sponge and anthozoan communities on subtidal rocky habitats are also moderately to highly vulnerable to surface abrasion pressures from potting and set netting activities (at least 12 vessels in winter, with lower levels in summer) (Balanced Seas 2011a). Applying the standardisation of fisheries exposure to this site JNCC and Natural England have assessed the site to have a lower level of fishing activity with a lower risk score.

- 6.2.52 In Norris to Ryde (BS 19), the regional MCZ project recommendations assessed one of the three features to have a recover objective. Following the subsequent Natural England sense check and outputs from the standardisation of fisheries exposure it is advised that two features are moderately to highly vulnerable to pressures caused by fishing, anchoring, crab tiling/bait digging, shipping, tourism and recreation. Subtidal mud is moderately to highly vulnerable at this site due to pressures caused by the level of benthic trawling as assessed by the standardisation of fisheries exposure ([Section 4.2](#)). The regional MCZ project recommendations also report that dredging, anchoring from recreational fishing and shellfish harvesting occur in this site. The seagrass beds are moderately to highly vulnerable due to the sensitivity of seagrass beds to uprooting, smothering and blocking of light and exposure to crab tiling/bait digging, benthic trawling, shellfish harvesting, shipping and tourism and recreation because anchoring is high in the north-west of the feature.
- 6.2.53 In Bembridge (BS 22), the regional MCZ project recommended a high number of features (18) with eight of those assessed by the regional MCZ project to have recover conservation objectives. As highlighted by the regional MCZ project, the site is subject to a wide range of activities that have cumulative pressures on a number of features, which elevates the vulnerability of the site and this is not sufficiently represented in the risk score. According to the regional MCZ project, the features are vulnerable to cumulative pressures caused by the physical impacts of mobile, and in particular, bottom towed fishing gear (and perhaps to a lesser degree static fisheries), along with recreational and commercial anchoring. Features such as sea-pen and burrowing megafaunal communities, maerl beds and seagrass beds are particularly susceptible to damage from surface and shallow abrasion and removal of non-target species caused by fishing. Shellfish harvesting affects the native oyster *Ostrea edulis* through the removal of target species and surface abrasion, Data from the ports sector presented at the final regional stakeholder group meeting showed that the anchorage in the site at St Helen's Road was much larger than previously thought and that it overlaps with subtidal mud, sea-pens and burrowing megafauna, and is very close to mud habitats in deep water (Balanced Seas 2011a). It was agreed that anchoring occurs in a wider area than the anchorage itself and therefore vulnerable features such as ross worm *Sabellaria spinulosa* are likely to be affected; this feature along with maerl beds are also subject to additional pressures resulting from the anchoring of recreational vessels.
- 6.2.54 In West of Walney (ISCZ 02) and West of Walney (extension) (ISCZ 02a&b) the regional MCZ project recommended that all seven features across these two connected sites have recover objectives due to pressures primarily associated with the Northern Irish and English *Nephrops* fisheries. According to the regional MCZ project all seven features are assessed as moderately to highly vulnerable to pressures exerted by otter trawling. Subsequent to the recommendations subtidal sand has been identified in the site. Subtidal sand has a recover objective and is assessed as moderately vulnerable to pressures exerted by otter trawling.
- 6.2.55 In Sefton Coast (ISCZ 13) the regional MCZ project recommended that the peat and clay exposures feature have a recover conservation objective due to moderate to high sensitivity to physical change, physical loss, structural abrasion and damage, changes to wave exposure caused by flood and coastal risk management activities on the Sefton coast and in the wider Liverpool Bay area. In the Hilbre Island Group (ISCZ 14) the regional MCZ project recommended that both features of the site have recover conservation objectives due to moderate to high sensitivity to physical damage caused by shallow and surface abrasion, associated with recreational activities such as walking, rambling and horse riding which is focused in this area.
- 6.2.56 In Kingmere (BS 16) the regional MCZ project recommended recover conservation objectives for subtidal chalk, infralittoral rock and black bream *Spondyllosoma cantharus* due to moderate to high vulnerability to the removal of non target species, siltation, shallow abrasion and surface abrasion.

According to the regional MCZ project recommendations the pressures are caused by benthic trawling, potting and creeling and set netting, licensed aggregate extraction. In Kingmere (BS 16) all features with the exception of native oyster *Ostrea edulis* are supporting features for the black bream *Spondyliosoma cantharus* nests. According to the regional MCZ project significant agreement has been reached for a new fisheries management measure to safeguard black bream *Spondyliosoma cantharus* but has yet to be implemented.

6.2.57 In Orford Inshore (NG 01b) the regional MCZ project recommended a recover objective for subtidal mixed sediments in this single feature site due the shallow abrasion and removal of non target species associated with benthic trawling. According to the regional MCZ recommendations fishing activity in this site is undertaken by UK and non UK vessels.

6.2.58 Natural England **advises** that the following 22 inshore sites are vulnerable and therefore at risk of damage or disturbance because they contain highly sensitive features and are subject to one or more pressures. Natural England **advises** that the following 22 sites have a stronger case for earlier designation as MCZs:

- Swale Estuary (BS 10), ross worm *Sabellaria spinulosa* reefs
- Cumbrian Coast (ISCZ 11), honeycomb worm *Sabellaria alveolata* reefs
- Yarmouth to Cowes (BS 23), ross worm *Sabellaria spinulosa* and seagrass beds
- Poole Rocks (FS 14), native oyster *Ostrea edulis*
- Thames Estuary (BS 05), tentacled lagoon-worm *Alkmaria romijni*
- Stour and Orwell Estuaries (BS 02), native oyster *Ostrea edulis* and ross worm *Sabellaria spinulosa* reefs and honeycomb worm *Sabellaria alveolata* reefs
- Lundy rMCZ (FS 41), spiny lobster *Palinurus elephas*
- The Manacles (FS 32), spiny lobster *Palinurus elephas*, subtidal macrophyte-dominated sediment, maerl beds, pink sea-fan *Eunicella verrucosa*, stalked jellyfish *Haliclystus auricular*
- Studland Bay (FS 15), seagrass beds, long-snouted seahorse *Hippocampus guttulatus*
- The Needles (BS 20), seagrass beds
- The Medway Estuary (BS 06), tentacle lagoon-worm *Alkmaria romijni*
- Torbay (FS 22), seagrass beds, long-snouted seahorse *Hippocampus guttulatus*
- Thanet Coast (BS 07), ross worm *Sabellaria spinulosa* reefs
- Skerries Bank and Surrounds (FS 24), spiny lobster *Palinurus elephas*
- Whitsand and Looe Bay (FS 28), sea-fan anemone *Amphianthus dohrnii*, pink sea-fan *Eunicella verrucosa*
- Padstow Bay (FS 38), spiny lobster *Palinurus elephas*
- The Isles of Scilly (FS 35) (*subs-sites Bishop to Crim (FS 35c), Gilstone to Gorregan (FS 35e), Hanjague to Deep Ledge (FS 35f), Lower Ridge to Innisvoulis (FS 35h), Men a Vaur to White Island (FS 35i), Pennenis to Dry Ledge (FS 35j), Plympton to Spanish Ledge (FS 35k), Smith Sound Tide Swept Channel (FS 35l)*), spiny lobster *Palinurus elephas*
- Dover to Deal (BS 11.1), littoral chalk
- Dover to Folkstone (BS 11.2), littoral chalk and ross worm *Sabellaria spinulosa* reefs
- Beachy Head West (BS 13.2), littoral chalk, ross worm *Sabellaria spinulosa* reefs
- Beachy Head East (BS 13.1), subtidal chalk, littoral chalk, ross worm *Sabellaria spinulosa* reefs, short-snouted seahorse *Hippocampus hippocampus*, Native oyster *Ostrea edulis*
- Offshore Brighton (BS 14), native oyster *Ostrea edulis*.

6.2.6.2 Offshore rMCZs most at risk (risk score of 100%)

6.2.59 There are 14 fully offshore rMCZs in which all site features have had recover objectives recommended in the final reports and so the site risk score is 100% (**Table 32**). On review of the

vulnerability assessments for the features in the rMCZs, JNCC **advises** an additional site is added to this list (see advice regarding Haig Fras in Sections [5.2](#) and [4.2](#)), bringing the total to 15 fully offshore sites considered to be at higher risk of damage or deterioration from anthropogenic activities.

- 6.2.60 JNCC assessed site risk for 9 of the 14 joint sites straddling the 12nm boundary. Of these 9 sites, 6 were considered to be at higher risk because all the features had been assigned recover objectives in the final recommendations. **Table 31** summarises all of the offshore and 6 of the 14 joint rMCZs with risk scores of 100% and explanations for each are provided.
- 6.2.61 We highlight some FOCI in red in **Table 32** because there is good evidence to show that these FOCI are particularly sensitive to the pressures for which the recover objective was set. For these FOCI, the MB0102 sensitivity matrix shows that moderate to high confidence accompanies the assessment of high sensitivity to the relevant pressures, such as surface, shallow and structural abrasion and removal of target and non-target species.
- 6.2.62 However, we do not highlight in the risk assessment the BSH features which are of particular risk of damage or deterioration. This is because BSHs tend to exhibit natural sub-feature variability in sensitivity to pressures; this is reflected in the MB0102 sensitivity matrix by ranges in sensitivity scores (Tillin, Hull and Tyler-Walters 2010). Following the procedure outlined in the Conservation Objective Guidance (Natural England & JNCC 2011a) a precautionary approach was adopted, where the highest sensitivity score was chosen by default. However, the consequence of choosing a single sensitivity score from a range is that it masks the uncertainty. Therefore, the recover objectives listed in **Table 32** are largely low confidence due to the insufficient evidence available to assess the sensitivities of the features to the pressures to which they are subject.

Table 32 Summary of offshore and JNCC-led joint recommended Marine Conservation Zones with site risk scores of 100% and highlighting those features which we regard as highly sensitive (in red)

NB. HOCI = Habitat of Conservation Importance, SOCI = Species of Conservation Importance

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by JNCC post review ⁶²)	Confidence in final recommendation feature condition ⁶³ (information in brackets indicates where JNCC advises otherwise)	Site risk score (score in brackets advised by JNCC)
Finding Sanctuary	The Canyons (FS 01)	Subtidal coarse sediment (A5.1)	Recover (Advise that feature not be listed for designation)	Low	100
		Subtidal sand (A5.2)	Recover (Advise that feature not be listed for designation)	Low	
		Cold-water coral reefs (HOCI 2)	Recover	Mod	
		Deep-sea bed (A6)	Recover	Low	
	South-West Deeps (West) (FS 03)	Subtidal coarse sediment (A5.1)	Recover	Low	75 (100)
		Subtidal sand (A5.2)	Recover	Low	
		Subtidal mixed sediment (A5.4)	Recover	Low	
		Celtic Sea Relict Sandbank	Maintain (Advise that geological feature not be listed)	Low	
	North-West of Jones Bank (FS 04)	Subtidal sand (A5.2)	Recover (Advise that feature not be listed for designation)	Low	100

⁶² See review of conservation objectives for details regarding JNCC’s advice on final recommendation conservation objectives.

⁶³ See confidence in feature condition and review of conservation objectives for further details.

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by JNCC post review ⁶²)	Confidence in final recommendation feature condition ⁶³ (information in brackets indicates where JNCC advises otherwise)	Site risk score (score in brackets advised by JNCC)
		Subtidal mud (A5.3)	Recover	Low	
		Subtidal coarse sediment (A5.1)	Recover	Low	
	Greater Haig Fras (FS 05)	Moderate energy circalittoral rock (A4.2)	Recover (Advises that feature not be listed for designation)	Low	83 (100)
		Subtidal coarse sediment (A5.1)	Recover	Low	
		Subtidal mixed sediments (A5.4)	Recover	Low	
		Subtidal mud (A5.3)	Recover	Low	
		Subtidal sand (A5.2)	Recover	Low	
		Fragile sponge and anthozoan communities (HOCl 7)	TBC (Advises that feature not be listed for designation)	Low	
		Haig Fras rock complex	Maintain (Advises that feature not be listed for designation)	Low	
	East of Jones Bank (FS 06)	Subtidal sand (A5.2)	Recover (Advises that feature not be listed for designation)	Low	100
		Moderate energy circalittoral rock (A4.2)	Recover	Low	
		Subtidal mud (A5.3)	Recover	Low	
	South of Celtic Deep (FS 09)	Subtidal coarse sediment (A5.1)	Recover	Low	100
		Subtidal mixed sediments (A5.4)	Recover	Low	
		Subtidal sand (A5.2)	Recover	Low	
Subtidal mud (A5.3)		Recover (Advises that feature not be listed for designation)	Low		

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by JNCC post review ⁶²)	Confidence in final recommendation feature condition ⁶³ (information in brackets indicates where JNCC advises otherwise)	Site risk score (score in brackets advised by JNCC)
	Celtic Deep (FS 10)	Subtidal mud (A5.3)	Recover	Low	100
		Deep water mud habitats (HOCl 13)	Recover	Mod	
	East of Celtic Deep (FS 11)	Subtidal sand (A5.2)	Recover	Low	100
		Subtidal mud (A5.3)	Recover	Low	
		Subtidal coarse sediment (A5.1)	Recover (Advises that feature not be listed for designation)	Low	
	Western Channel (FS 12)	Moderate energy circalittoral rock (A4.2)	Recover	Low	100
		Subtidal coarse sediment (A5.1)	Recover	Low	
		Subtidal mixed sediments (A5.4)	Recover	Low	
	South of the Isles of Scilly (FS 13, joint rMCZ)	Subtidal sand (A5.2)	Recover	Low	100
		Subtidal coarse sediment (A5.1)	Recover	Low	
	South-East of Falmouth (FS 30)	Subtidal sand (A5.2)	Recover (Advises that feature not be listed for designation)	Low	100
		Subtidal coarse sediment (A5.1)	Recover	Low	
East of Haig Fras (FS 07)	Subtidal sand (A5.2)	Recover	Low	100	
	Subtidal coarse sediment (A5.1)	Recover	Low		
	moderate energy circalittoral rock (A3.2)	Recover	Low		

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by JNCC post review ⁶²)	Confidence in final recommendation feature condition ⁶³ (information in brackets indicates where JNCC advises otherwise)	Site risk score (score in brackets advised by JNCC)
Net Gain	Markham's triangle (NG 07)	Subtidal coarse sediment (A 5.1)	Recover	Low	100
		Subtidal sand (A 5.2)	Recover	Low	
	Compass Rose (NG 12)	Moderate energy circalittoral rock (A3.2)	Recover	Low	100 (caveat)
	Holderness offshore (NG 09, joint rMCZ)	Subtidal coarse sediment (A5.1)	Recover	Low	100
		Subtidal mixed sediments (A5.4)	Recover	Low	
ISCZ	Mud Hole (ISCZ 01, joint rMCZ)	Subtidal mud (A5.3)	Recover	Low	100
		Deep water mud habitats (HOIC 13)	Recover	Low (caveat – see section 5.2)	
		Sea-pen and burrowing megafauna (HOIC 18)	Recover	Low	
	South Rigg (ISCZ 06)	Subtidal mud (A5.3)	Recover	Low	100
		Low energy circalittoral rock (A4.3)	Recover	Low	
		Subtidal sand (A5.2)	Recover	Low	
		Deep water mud habitats (HOIC 13)	Recover	Low	
		Ocean quahog <i>Arctica islandica</i> (SOIC 3)	Recover	Low	
	Sea-pen and burrowing megafauna (HOIC 18)	Recover	Low		
	Slieve Na Griddle (ISCZ 07)	Low energy circalittoral rock (A4.3)	Recover (Advises that feature not be listed for designation)	Low	100
Subtidal mud (A5.3)		Recover	Low		

Regional MCZ project	Site name	Feature	Final recommendation conservation objective (CO in brackets advised by JNCC post review ⁶²)	Confidence in final recommendation feature condition ⁶³ (information in brackets indicates where JNCC advises otherwise)	Site risk score (score in brackets advised by JNCC)
		Deep water mud habitats (HOCl 13)	Recover	Mod	
Balanced Seas	East Meridian (BS 29, joint rMCZ)	Subtidal sands and gravels (HOCl 21)	Recover	Low	100
		Subtidal mixed sediment (A5.4)	Recover	Low	
		Subtidal sand (A5.2)	Recover	Low	
		Ross worm (<i>Sabellaria spinulosa</i>) reefs (HOCl 16)	Recover (advice pending)	Low (caveat – see section 5.2)	
	East Meridian – Eastern Side (BS 29.2, joint rMCZ)	Subtidal sand (A5.2)	Recover	Low	100
		Subtidal mixed sediment (A5.4)	Recover	Low	
		Subtidal sands and gravels (HOCl 21)	Recover	Low	
	Inner Bank (BS 31, joint rMCZ)	Subtidal sand (A5.2)	Recover	Low	100
		Moderate energy infralittoral rock (A3.2)	Recover	Low	
		Moderate energy circalittoral rock (A4.2)	Recover	Low	
		Subtidal coarse sediment (A5.1)	Recover	Low	
		Native oyster <i>Ostrea edulis</i> (SOCl 22)	Recover (Advises that feature not be listed for designation)	Low	
Native oyster <i>Ostrea edulis</i> beds (HOCl 14)	Recover ((Advises that feature not be listed for designation)	Low			

Finding Sanctuary

6.2.63 In the Finding Sanctuary project area, 12 sites in the offshore area beyond 12 nm and JNCC-led joint rMCZs are assessed to have 100% site risk:

- The Canyons (FS 01)
- South-West Deeps (West) (FS 03)
- North-West of Jones Bank (FS 04)
- Greater Haig Fras (FS 05)
- East of Jones Bank (FS 06)
- South of Celtic Deep (FS 09)
- Celtic Deep (FS 10)
- East of Celtic Deep (FS 11)
- South of the Isles of Scilly (FS 13) (joint rMCZ)
- South-East of Falmouth (FS 30)
- East of Haig Fras (FS 07)
- Western Channel (FS 12).

The Canyons (FS 01)

6.2.64 The BSHs in the Canyons (FS 01) have all been assessed in the final regional MCZ project recommendations to be moderately to highly vulnerable to surface, shallow and structural abrasion. This abrasion is mainly associated with French and Spanish over-15m vessel demersal otter trawling. JNCC reviewed the draft final recommendation and provided advice to the regional MCZ projects June 2011. JNCC **advised** that the features were also moderately to highly vulnerable to removal of non-target species, and this advice is reiterated here. Vessel Monitoring System (VMS) data indicate there is potentially significant long lining occurring in the area. However, limitations associated with these data makes assessment of exposure to associated pressures problematic⁶⁴. JNCC also advised in June 2011 that it was not appropriate for subtidal coarse sediment and subtidal sand to be listed as features for designation (see rationale provided in JNCC's review of conservation objectives; [Section 4.2](#)). If our advice is followed, and these features are not included for this site, site risk would remain at 100%.

6.2.65 The condition of the cold-water coral reef FOCI in the Canyons (FS 01) was assessed using direct evidence ([Section 5.2](#) for further details). The risk protocol does not provide for features which have had condition assessed using direct evidence. Based on information gathered during a JNCC survey of the area (Mapping European Seabed Habitats project (MESH) South-West Approaches Canyons Survey (MESH Cruise 01-07-01)) there was evidence for severe damage over a widespread area of the feature. However, following protocol F (Natural England & JNCC 2012f), the evidence did not satisfy all criteria for high confidence and thus we have assumed moderate confidence in the assessment of condition. This confidence score is higher than those for the overwhelming majority of assessments of condition which have relied upon the vulnerability assessment process. We had previously considered this feature as an Area of Search (AoS) in the Natura process but it was not progressed as a Special Area of Conservation because we were of the opinion that better examples were located elsewhere.

6.2.66 There is no direct evidence to indicate that this damage is necessarily the result of anthropogenic activity. There is, however, strong evidence (indicated by high confidence in high sensitivity scores in MB0102) that cold-water coral reefs are highly sensitive to a range of pressures, many of which

⁶⁴ The data provide intensity of effort in terms of hours per year. However, this effort gives an indication of hours paying out and bringing in the gear and not necessarily gear 'soak time'.

are associated with bottom trawling. These pressures include surface, shallow and structural abrasion and removal of non-target species. Vessel Monitoring System data indicate activity from the Spanish and French over-15m vessel demersal otter trawl fleet and from the Spanish demersal long lining fleet has been occurring over the area of cold-water coral reef in the Canyons. Mobile bottom-contacting fishing gear and, to a lesser extent, static bottom-contacting fishing gear are associated with abrasion and removal of non-target species pressures, to which the feature is known to be highly sensitive.

- The cold-water coral reef feature is fragile and reef recovery would be expected to be over a timescale of hundreds to thousands of years (Tyler-Walters 2008). Therefore JNCC **advises** that this feature is likely to be at high risk of further damage from demersal fishing activities (static or mobile).

South west deeps (west) (FS 03)

6.2.67 Although the south-west deeps site technically does not have a 100% site risk, the draft protocol does not cover what to do in the presence of a geological feature which has a default maintain CO. Notwithstanding the geological feature, the remaining three features in the site have recover objectives, therefore, JNCC believe it reasonable to consider the site at higher risk. Subtidal coarse sediment was the predominant habitat feature in the site. In accordance with the precautionary approach JNCC recommended that this feature be classified as moderately sensitive to abrasion. This was due to a lack of evidence regarding the stability of the habitat and its constituent biota. A recover objective was recommended for the feature as the exposure to abrasion pressure was estimated to be moderate-high as a result of bottom trawling activity. The distribution of subtidal sand (gravelly muddy sand) and mixed sediment was limited within the site. However, the sensitivity of these features to the predominant associated pressures (i.e. abrasion), varied from moderate to high. Exposure to these pressures was principally a result of bottom trawling activity over the features.

- Due to low to moderate/high bottom trawling activity, all three features within the site were considered moderately to highly vulnerable. JNCC advises that the listed features are likely to be in unfavourable condition and may be at risk of further damage or deterioration.

North-West of Jones Bank (FS 04), Greater Haig Fras (FS 05) and East of Jones Bank (FS 06)

6.2.68 JNCC have advised that subtidal sand in North-West of Jones Bank (FS 04), moderate energy circalittoral rock in East of Jones Bank (FS 06), fragile sponge and anthozoan community, Haig Fras rock complex and moderate energy circalittoral rock in Greater Haig Fras (FS 06), are not listed for designation (see JNCC's review of conservation objectives provided in [Section 5.2](#) for further details regarding advice). Hence, all the remaining BSHs in the three sites have been assessed to be moderately to highly vulnerable to pressures. These pressures are primarily associated with bottom trawling, namely, surface, shallow and structural abrasion and removal of non-target species. Should our advice be followed, the site risk for North-West of Jones Bank (FS 04) and East of Jones Bank (FS 06) would remain at 100% but for Greater Haig Fras (FS 05) would rise from 83% (five of six features with recover objectives in the final recommendation) to 100% (three of three features with recover objectives).

- Due to bottom trawling activity in the North-West of Jones Bank (FS 04), JNCC **advises** that listed features are likely not to be in favourable condition and may be at risk of remaining in a damaged or deteriorated condition;
- Due to low to moderate bottom trawling activity in East of Jones Bank (FS 06) and Greater Haig Fras (FS 05), JNCC **advises** that the listed features are likely to be in unfavourable condition and may be at risk of further damage or deterioration.

South of Celtic Deep (FS 09)

6.2.69 All the BSHs in South of Celtic Deep (FS 09) have been assessed in the final Finding Sanctuary recommendations to be moderately to highly vulnerable to surface, shallow and structural abrasion and removal of non-target species primarily associated with otter trawling and beam fishing occurring over the feature.

- Due to low to moderate bottom trawling activity, JNCC **advises** that the listed features are likely to be in unfavourable condition and may be at risk of further damage or deterioration.

Celtic Deep (FS 10)

6.2.70 Both of the mud features in Celtic Deep (FS 10) have been assessed in the final Finding Sanctuary recommendation to be moderately to highly vulnerable to pressures primarily associated with European Union vessels (Irish and French) bottom trawling, and to a much smaller degree, UK vessels bottom trawling. The fishery at this site is principally targeting *Nephrops* which is associated with surface, shallow and structural abrasion and removal of target and non-target species pressures.

6.2.71 There is an additional site risk in Celtic Deep (FS 10) because the deep water mud habitats FOCI are highly sensitive, with moderate confidence, to shallow and structural abrasion. It is also highly sensitive, with high confidence, to removal of non-target species. We have moderate confidence in the assessment of the condition of the deep water mud habitats at Celtic Deep (see JNCC's confidence assessment provided in [Section 5.2](#). Hinz et al. (2009) draws conclusions regarding the impacts of chronic *Nephrops* trawling in an area of the Irish Sea with similar broad-scale and FOCI features:

chronic otter trawling had a significant, negative effect on benthic infauna abundance, biomass, and species richness. Benthic epifauna abundance and species richness also showed a significant, negative response, while no such effect was evident for epibenthic biomass; Furthermore, chronic trawl disturbance led to clear changes in community composition of benthic infauna and epifauna. The results presented indicate that otter-trawl impacts are cumulative and can lead to profound changes in benthic communities, which may have far-reaching implications for the integrity of marine food webs (p. 761)

6.2.72 JNCC's conclusion is that the mud features are highly sensitive and, as they are subject to high *Nephrops* fishing activity, JNCC **advises** that the listed features are likely to be in unfavourable condition and may be at risk of remaining in a damaged or deteriorated condition.

East of Celtic Deep (FS 11)

6.2.73 All the broad-scale features in East of Celtic Deep (FS 11) have been assessed to be moderately to highly vulnerable to pressures associated with bottom trawling. A recover objective was set for subtidal mud because the regional stakeholder group (and JNCC) considered that it was vulnerable to pressures associated with bottom trawling for *Nephrops*; shallow, surface and structural abrasion and removal of target and non-target species. Recover objectives were set for both subtidal sand and subtidal coarse sediments because these features were considered to be vulnerable to pressures primarily associated with UK vessels beam trawling and to a lesser extent UK vessels bottom trawling; surface, shallow and structural abrasion and removal of non-target species. JNCC **advises** that the feature subtidal coarse sediments is not listed for designation in this rMCZ. Given the wider distribution of the feature beyond the site boundary, it is unlikely that a conservation objective would be achievable for the feature within the site (see JNCC's review of conservation objectives for explanation; [Section 4.2](#)). Removing this feature from the site does not alter the risk which remains at 100%.

- Due to moderate bottom trawling activity in the East of Celtic Deep (FS 11) site, JNCC **advises** that listed features are likely to be in unfavourable condition and may be at risk of further damage or deterioration.

Western Channel (FS 12) (page 429)

6.2.74 All the BSHs in South of Western Channel (FS 12) have been assessed in the final Finding Sanctuary recommendations to be moderately to highly vulnerable to surface, shallow and structural abrasion and removal of non-target species primarily associated with benthic trawling over the feature. Due to low to moderate bottom trawling activity, JNCC advises that the listed features are likely to be in unfavourable condition and may be at risk of further damage or deterioration.

South of the Isles of Scilly (FS 13) and South-East of Falmouth (FS 30)

6.2.75 Both subtidal sand and subtidal coarse sediments in South of the Isles of Scilly (FS 13) and South-East of Falmouth (FS 30) had recover objectives set in the final recommendations because they were considered vulnerable to pressures associated with mobile demersal fishing; surface, shallow and structural abrasion and removal of non-target species. In South of the Isles of Scilly (FS 13) the pressures are mainly associated with bottom trawling and, to a lesser extent, UK vessels dredging, beam trawling and otter trawling. In South-East of Falmouth (FS 30), they are associated with mainly UK vessels beam trawling and dredging.

- Due to bottom trawling activity in the South of the Isles of Scilly (FS 13) and South-East of Falmouth (FS 30) sites, JNCC **advises** that listed features are likely to be in unfavourable condition and may be at risk of further damage or deterioration
- JNCC does not consider the broad-scale features in Celtic Deep (FS 10), North-West of Jones Bank (FS 04) and The Canyons (FS 01) to be highly sensitive (with moderate to high confidence) to the pressures associated with the fishing activities occurring. However, the intensity, widespread and historical nature of the fishing activities occurring within these sites has possibly already resulted in damage or deterioration to these features and highly sensitive FOCI present. We would therefore assess the risk of these features currently being in a damaged or deteriorated condition as high.

East of Haig Fras (FS 07)

6.2.76 All three features being put forward for designation in East of Haig Fras rMCZ, subtidal sand, subtidal coarse sediment and moderate energy circalittoral rock have been given recover objectives in Finding Sanctuary's final recommendations. They were all assessed to be moderately to highly vulnerable to pressures associated with mainly over 15m vessels demersal mobile fishing. The site risk score is therefore 100% and considered to be at higher risk of damage or deterioration associated with this fishing effort.

Net Gain

6.2.77 In the Net Gain area final recommendations, Holderness Offshore (NG 09), Compass Rose (NG09) and Markham's Triangle (NG 07) are the only sites where all features have been given recover objectives.

Holderness offshore (NG 09)

6.2.78 In the Net Gain final recommendations, both the subtidal coarse sediment and subtidal mixed sediment features were assessed to be moderately to highly vulnerable to the removal of non-target species and abrasion associated with a range of fishing activities, including beaming, scalloping and otter trawling. Since both features have been given recover objectives, the site risk score is 100%. It is therefore regarded as a site at higher risk of damage or deterioration associated with bottom-contacting mobile fishing activities.

Compass Rose (NG 12)

6.2.79 In the final recommendation, the feature was assessed to moderately to highly vulnerable to pressures associated with mobile demersal fishing efforts of >15m vessel. The feature was assessed in the Net Gain final recommendation to be moderately to highly vulnerable to removal of non-target species and abrasion.

6.2.80 The Compass Rose site has by default of having only one feature being put forward for designation with a recover objective a site risk score of 100%. It is therefore regarded as at higher risk of damage or deterioration (according to protocol G) from over 15m vessels demersal mobile fishing. However, caution is advised when making decisions regarding prioritisation of this site for designation on the basis of this score because site risk score is a function of the number of the features on the site (see **Figure 13**). Given there is only one feature in Compass Rose rMCZ and that it is not considered a highly sensitive feature with moderate to high confidence (according to MB0102) the site risk score may therefore be an overestimation of actual risk of damage or deterioration to the site from anthropogenic activities in this instance.

Markham's Triangle (NG 07)

6.2.81 The two BSHs in Markham's triangle (NG07) have been assessed to be moderately to highly sensitive to removal of non-target species and abrasion pressures. These pressures are primarily associated exposure to bottom trawling (otter and beam trawl) across the site.

- Due to moderate/high bottom trawling activity, JNCC advises that the listed features are likely to be in unfavourable condition and may be at risk of further damage or deterioration.

Irish Sea Conservation Zones

6.2.82 Three offshore sites in the ISCZ project area are assessed as having 100% site risk. All three sites also contain FOCI which we consider to be at higher risk of damage or deterioration from anthropogenic activities due to their sensitivity to pressures associated with primarily *Nephrops* fishing: deep water mud habitats is listed in all three sites, and ocean quahog *Arctica islandica* is listed in South Rigg.

6.2.83 All the FOCI and BSH features in Mud Hole (ISCZ 01), South Rigg (ISCZ 06) and Slieve na Griddle (ISCZ 07) have been assessed to be moderately to highly vulnerable to pressures associated with relatively high intensity fishing from the over-15m vessel mobile demersal *Nephrops* fleet.

Mud Hole (ISCZ 01)

6.2.84 In Mud Hole (ISCZ 01), all three mud features: subtidal mud, deep water mud habitats, and sea-pen and burrowing megafauna have been given recover objectives in the final recommendation due to vulnerability to pressures primarily associated with the Northern Irish and English nephrops fisheries. All three features are assessed as moderately to highly vulnerable to the following pressures: removal of target and non-target species and shallow abrasion. Subtidal mud was assessed as moderately to highly vulnerable to surface and structural abrasion. We advise that the FOCI, deep water mud habitats, and sea-pen and burrowing megafauna are also moderately to highly vulnerable to these pressures.

6.2.85 We consider the deep water mud habitat to be a highly sensitive feature within this site. It is highly sensitive, with moderate to high confidence, to several of the pressures which are associated with the fishing effort occurring over it and therefore it is likely to be at high risk of damage or deterioration.

- JNCC's conclusion is that the mud features in Mud Hole (ISCZ 01) are highly sensitive and, as they are subject to high *Nephrops* fishing activity, JNCC **advises** that the listed features are likely to be in unfavourable condition and may be at risk of remaining in a damaged or deteriorated condition.

Slieve Na Griddle (ISCZ 07)

6.2.86 In Slieve na Griddle (ISCZ 07), low energy circalittoral rock was given a recover objective in the final recommendation. JNCC **advises** that this feature is not listed for designation (see JNCC's review of conservation objectives; [Section 4.2](#)). Should this advice be followed, however, it would not result in a change to the site risk score.

6.2.87 The *Nephrops* fishery, mentioned in **paragraph 6.2.82** mainly targets the subtidal mud and deep water mud habitats which have been given recover objectives because of their moderate to high vulnerability to associated pressures of removal of target and non-target species and shallow abrasion. Subtidal mud was also assessed to be moderately to highly vulnerable to surface abrasion. Additionally, we advise that both features are moderately to highly vulnerable to structural abrasion. Given the relatively high fishery effort here (Irish Sea Conservation Zones 2011) states that Slieve na Griddle (ISCZ 07) and South Rigg (ISCZ 06) represent the most intensely fished part of the ISCZ area, which is supported by VMS data), we consider that the highly sensitive FOCI, deep water mud habitats are likely to be at high risk of damage or deterioration in Slieve na Griddle (ISCZ 07). We also have moderate confidence in the assessment of deep water mud habitat condition within this site.

- JNCC's conclusion is that the mud features in Slieve na Griddle (ISCZ 07) are highly sensitive and, as they are subject to high *Nephrops* fishing activity, we advise that the listed features are likely to be in unfavourable condition and may be at risk of remaining in a damaged or deteriorated condition.

South Rigg (ISCZ 06)

6.2.88 In South Rigg (ISCZ 06), similar to Slieve na Griddle (ISCZ 07), all the features have been given recover objectives in the final recommendation due to vulnerabilities to pressures associated with relatively high levels of single and twin-rig otter trawling, targeting *Nephrops*. Additionally, in this site, seasonal scallop and oyster dredging occurs over the features, contributing to the features' moderate to high vulnerability to such pressures as removal of non-target species and shallow abrasion. Subtidal mud, low energy circalittoral rock, subtidal sand and sea-pen and burrowing megafauna are also assessed as moderately to highly vulnerable to surface abrasion. Subtidal mud, subtidal sand, deep water mud habitats and ocean quahog (*Arctica islandica*) are moderately to highly vulnerable to the structural abrasion mainly associated with the dredging activities.

6.2.89 Given the relatively high effort of fishing activity at South Rigg (ISCZ 06), we consider that the highly sensitive FOCI, deep water mud habitats are likely to be at high risk of damage or deterioration in South Rigg (ISCZ 06) (**paragraph 6.2.82** for further detail as to why this FOCI is regarded as highly sensitive).

6.2.90 Ocean quahog (*Arctica islandica*) is also highly sensitive to the pressures removal of non-target species, shallow abrasion and penetration and/or disturbance of the seabed, which are all associated with the otter trawling and dredging occurring over South Rigg (ISCZ 06). Ocean quahog is a relatively long-lived and slow growing species, with low recruitment rates. It may therefore take a population many years to recover from a reduction in abundance or extent (see MarLIN sensitivity assessment; (Sabatini, Pizzolla and Wilding 2008)). We therefore consider that the ocean quahog is likely to be at high risk of damage or deterioration within South Rigg (ISCZ 06). This feature is therefore considered likely to be at high risk.

6.2.91 Our assessment of risk for ocean quahog (*Arctica islandica*) is caveated because data on its location of ocean quahog are provided as point data and we therefore have low confidence in the exposure assessment (and consequently the vulnerability and risk assessments) of pressures associated with fishing activity using VMS data because of the limited spatial resolution in which

they are provided (see JNCC's method for assessing exposure to fishing pressures for further details on VMS data; [Section 4.2](#)).

- JNCC's conclusion is that the mud features and the ocean quahog in South Rigg (ISCZ 06) are highly sensitive features and, as they are subject to high *Nephrops* fishing and occasional shellfish dredging activity, we advise that the listed features are likely to be in unfavourable condition and may be at risk of remaining in a damaged or deteriorated condition
- We do not consider the broad-scale habitat features in Mud Hole (ISCZ 01), South Rigg (ISCZ 06) and Slieve na Griddle (ISCZ 07) to be highly sensitive, with moderate to high confidence, to the pressures associated with the current fishing activities. However, the intensity, widespread and historical nature of the fishing activities occurring within these sites has possibly already resulted in damage or deterioration to these features and the highly sensitive FOCI present. We would therefore assess the risk of these features currently being in a damaged or deteriorated condition as high.

Balanced Seas

6.2.92 Within the Balanced Seas project area final recommendations, JNCC assessed three sites to be at 100% risk of damage or deterioration from anthropogenic activities; this assessment was in line with stakeholder group final recommendations: East Meridian (BS 29), East Meridian – Eastern Side (BS 29.2) and Inner Bank (BS 31).

East Meridian (BS 29)

6.2.93 In East Meridian (BS 29), all of the features put forward with conservation objectives were assessed in the final recommendation as moderately to highly vulnerable to pressures associated with bottom trawling and beam trawling, and VMS indicates that this site shows some of the highest values of over-15m vessel fishing effort recorded in the UK offshore area. Both subtidal sand and subtidal mixed sediment were assessed to be moderately to highly vulnerable to removal of non-target species and shallow and surface abrasion. JNCC **advises** structural abrasion should also be included in this list of pressures.

6.2.94 A separate assessment of vulnerability was not undertaken by Balanced Seas for subtidal sands and gravels; however, they decided that a recover objective was appropriate (which JNCC support) given that the habitats, which are components of subtidal sands and gravels, were given recover objectives.

6.2.95 Similarly, Balanced Seas did not undertake a separate vulnerability assessment for ross worm *Sabellaria spinulosa* reef in East Meridian (BS 29). A recover objective was considered appropriate given that the habitats it is located on have been assigned recover objective, and we support this judgement. Given the intense and widespread fishing occurring in this site, the *S. spinulosa* reef may be considered likely to be at high risk of damage or deterioration because it is highly sensitive, with moderate confidence, to the shallow abrasion associated with the mobile demersal fishing effort. However, there is currently uncertainty as to whether the *S. spinulosa* data actually represents reef or if it is simply an occurrence of *S. spinulosa* species.

- JNCC's conclusion is that the subtidal sand, mixed sediment and *Sabellaria spinulosa* reef features are subject to high levels of otter and beam trawling activity, therefore JNCC **advises** that the listed features are likely to be in unfavourable condition and may be at risk of remaining in a damaged or deteriorated condition.

East Meridian – Eastern Side (BS 29.2)

6.2.96 Balanced Seas did not provide vulnerability assessments for the features in East Meridian – Eastern Side (BS 29.2) but put forward recover objectives. We completed vulnerability assessments for subtidal sand and subtidal mixed sediments (see JNCC's review of conservation objectives; [Section](#)

[4.2](#)) and, similar to East Meridian (BS 29), they were found to be moderately to highly vulnerable to pressures associated with very high levels of demersal fishing; mainly European Union (EU) vessels demersal trawling and beam trawling and, to a much lesser extent, UK vessels scallop dredging. Given that the component habitats of subtidal sands and gravels were assigned recover objectives, we advise that it is appropriate to assign a recover objective to this feature too.

- JNCC's conclusion is that the subtidal sand and mixed sediment features are subject to high levels of otter and beam trawling activity as well as some dredging activity, therefore we advise that the listed features are likely to be in unfavourable condition and may be at risk of remaining in a damaged or deteriorated condition.

Inner Bank (BS 31)

6.2.97 All the BSHs and FOCI in Inner Bank (BS 31) have been assessed to be moderately to highly vulnerable to pressures associated mainly with EU mobile demersal fishing, including beam trawling and to a lesser extent seasonal scallop dredging. The BSHs were assessed as moderately to highly vulnerable to removal of non-target species and surface abrasion. Moderate energy circalittoral and infralittoral rock and subtidal sand were also assessed as vulnerable to shallow abrasion, which JNCC **advises** should also be applied to subtidal coarse sediment.

6.2.98 In the final regional MCZ project recommendation, moderate energy circalittoral rock was assessed to be vulnerable to removal of target species, citing dredging as the activity associated with this pressure. For this pressure to be applied, the species being targeted would need to be a FOCI. JNCC **advises** that this pressure is not applicable because information from stakeholders regarding native oyster *Ostrea edulis* presence in this site indicates the dredging at this site is targeting scallops which are not listed as FOCI. Should our advice be followed it would not alter our support for the recover objectives set for the feature, nor would it alter the site risk score.

6.2.99 While native oyster *Ostrea edulis* as a species and habitat are generally considered to be highly sensitive to pressures associated with current fishing activities (therefore highlighted red in **Table 32** above), the presence of this feature was based on a single data point from 1999. Local stakeholders had no confidence in this. JNCC **advises** in [Section 4.2](#) that both species and habitat features are not progressed (see [Section 4.2](#) for more details). Should this advice be followed, site risk would remain at 100%, given that all the other features have been assigned recover objectives in the final recommendations.

- JNCC's conclusion is that the subtidal sands, sediments and rock (infralittoral/circalittoral) features in the Inner Bank (BS 31) site are subject to high levels of beam trawling and dredging activity, therefore we advise that the listed features are likely to be in unfavourable condition and may be at risk of remaining in a damaged or deteriorated condition
- We do not consider the broad-scale habitat features in East Meridian (BS 29), East Meridian – Eastern Side (BS 29.2) and Inner Bank (BS 31) to be highly sensitive, with moderate to high confidence, to the pressures associated with current fishing activities. However, the intensity, widespread and historical nature of the fishing activities occurring within these sites has possibly already resulted in damage or deterioration to these features and the highly sensitive FOCI present. We would therefore assess the risk of these features currently being in a damaged or deteriorated condition as high.

6.2.7 Conclusion

6.2.100 Natural England **advises** that 32 inshore rMCZs are of higher risk of damage or deterioration and have a stronger case for earlier designation as Marine Conservation Zones. Of these, Natural England **advises** that nine inshore rMCZs have a higher risk of damage or deterioration and have a stronger case for earlier designation as Marine Conservation Zones and 23 inshore sites are

vulnerable and therefore at risk of damage or disturbance because they contain highly sensitive features and are subject to one or more pressures.

6.2.101 JNCC and Natural England **advise** that 11 joint rMCZs are at higher risk of damage or deterioration and have a stronger case for earlier designation as Marine Conservation Zones.

6.2.102 JNCC **advises** that 15 fully offshore rMCZs are at higher risk of damage or deterioration and have a stronger case for earlier designation as Marine Conservation Zones.

MCZ advice annexes and glossary

Annex 1 Summary of the quality assurance processes applied to the development of the Marine Conservation Zone Project Ecological Network Guidance and Conservation Objective Guidance

Advice to Defra

*JNCC and Natural England **advise** that the Ecological Network Guidance (ENG) was based on the Convention for the Protection of the marine environment of the North-East Atlantic (OSPAR) and other international guidance and complied with Defra policy. The approach to producing the guidelines was agreed by the then Minister for Marine and Natural Environment.*

It was extensively reviewed before publication both internally and externally and by Defra, the Science Advisory Panel (SAP) and stakeholders with new research on connectivity, adequacy and viability commissioned by JNCC and Natural England externally peer reviewed by international scientists and approved by the Defra, JNCC and Natural England Chief Scientists. We are satisfied that it meets the four principles of the recently developed Natural England draft standard 'Quality assurance of use of evidence including peer review'.

*The Conservation Objective Guidance (COG) was based on good practice from the Natura 2000 process. It was reviewed internally, by other Statutory Nature Conservation Bodies (SNCBs), Defra and Defra Arm's Length Bodies and tested by the regional stakeholder groups. We **advise** that it meets the four principles of the above standard.*

A1.1. Aims

A1.1. This annex aims to:

- Describe the internal and external quality assurance process, including peer reviews for the ENG and COG were subject to.
- Assess how these documents comply with Natural England's four principles of quality assurance.

A1.2. Introduction

A1.2. Natural England and JNCC produced two key technical guidance documents for the Marine Conservation Zone (MCZ) Project: the ENG and the COG (Natural England and the Joint Nature Conservation Committee 2010) (Natural England & JNCC 2011a). The ENG is Natural England and JNCC's formal advice on how to meet the requirements of the Marine and Coastal Access Act 2009 (MCAA) and Defra policy (Defra 2010b). It describes how to identify MCZs in the Defra marine area to contribute towards an ecologically coherent Marine Protected Area (MPA) network by using the seven network design principles and additional considerations.

A1.3. The COG is the formal guidance from JNCC and Natural England that sets out the process for drafting a conservation objective for the features identified within recommended MCZs (Natural England & JNCC 2011a). The purpose of this guidance was to outline the process regional MCZ projects and regional stakeholder groups (RSGs) should use in proposing draft conservation objectives.

A1.4. Through the development of MCZ Project ENG and COG the authors undertook several internal and/or external reviews. The MCZ Project Board was responsible for signing off key drafts. This annex describes the quality assurance and sign-off processes each document went through during its development.

A1.5. Although both documents went through detailed quality assurance processes as detailed later in this section, since Natural England and JNCC first published the ENG and COG both organisations have reviewed their evidence and quality assurance processes to comply, where appropriate, with the Government Chief Scientific Adviser's guidelines (Government Office for Science 2010). In Natural England this was driven by:

- Changes to Natural England's business model and resultant internal redistribution of evidence specialists
- Its work to develop standards for all the work it does and
- To ensure inconsistencies found through the 'Independent review of the evidence process for selecting marine special areas of conservation' (Graham-Bryce 2011) (known as the cSAC review) are addressed and thus increase consistency of approach across the Defra network.

A1.6. JNCC has also responded to the cSAC review and reviewed its quality assurance and evidence standards.

A1.7. Both organisations have committed to implementing the Government Chief Scientific Adviser's 'Guidelines on the use of scientific and engineering advice in policy making' (Government Office for Science 2010). The guidelines are reflected in the Natural England draft standard 'Quality assurance of use of evidence including peer review' which describes four principles:

- **Evidence** used is of a quality and relevance appropriate to give advice or reach decisions
- **Analysis** carried out is appropriate to the evidence available and the issue under consideration
- **Conclusions** are drawn which clearly relate to the evidence and analysis
- **Uncertainty** arising due to the nature of the evidence and analysis is clearly identified and explained.

A1.8. The Natural England standard outlines a tiered approach to quality assurance (see below). The more contentious or novel work is, the higher the tier needed. The ENG can retrospectively be classed as a tier 3 document, whilst the COG can be classed as tier 2.

- Tier 1: Self assessment QA
- Tier 2: Internal QA/peer review
- Tier 3: External peer review

A1.3. Ecological Network Guidance

A1.3.1. Network design principles and considerations

A1.9. The network design principles and further considerations on which the ENG is based are contained in Defra's Guidance Note 1 on the selection and designation of MCZs (Defra 2010b). The network design principles were also listed in the Ministerial Statement issued in March 2010 (Defra 2010a). The network design principles were primarily derived from guidance of the OSPAR Convention (OSPAR 2006-3), and JNCC and Natural England provided advice to Defra during the development of these principles.

A1.3.2. Use of international good practice

A1.10. The ENG draws heavily on international good practice and peer-reviewed science and contains a detailed reference list. The authors also examined good practice from around the world including New Zealand, California, South Africa, Australia and the United States.

A1.11. International guidance used includes OSPAR guidance on identifying MPAs (OSPAR 2003-7) (OSPAR 2007) and developing an ecologically coherent network, guidance from the Secretariat of the Convention on Biological Diversity (SCBD 2004) and from IUCN-WCPA (IUCN-WCPA 2008).

A1.3.3.Meeting with the Minister

A1.12. On 25 June 2009 JNCC and Natural England met the then Minister for Marine and Natural Environment to brief him on the proposed approach to producing guidelines for identifying MCZs. At the meeting JNCC and Natural England specialists outlined:

- The proposed methods for meeting each network design principle
- The benefits of our preferred approach
- Whether the methods used the best available evidence, and
- The timescales for delivery and whether these were practical within the project time period.

A1.13. The Minister agreed with our approach, requesting the guidance to be issued under JNCC/Natural England authority. Defra proposed that the three Chief Scientists (Defra, JNCC and Natural England) should be involved in the peer review of the guidance to provide scientific reassurance.

A1.3.4.Peer review of research and involvement of Chief Scientists

A1.14. Natural England and JNCC commissioned several new pieces of research to inform the development of the ENG and specifically the principles of replication, adequacy, viability and connectivity (Rondinini 2011a, Hill, et al. 2010, Jackson, Hiscock, et al. 2009, Roberts, et al. 2010, Rondinini and Chiozza 2010, Rondinini 2011b).

A1.15. Following the meeting with the Minister, the Chief Scientists of Defra, Natural England and JNCC met on 8 September 2009 to discuss the draft ENG. The group concluded that the guidance was fit to travel to the MCZ Project Board and beyond and that they were happy with the science and process (T Tew (previous Chief Scientist of Natural England), pers. comm.). They had three significant caveats – the guidance should be edited by a skilled science writer; the science on connectivity was weak and Defra would invite international experts to review the connectivity science; detail of the species-area curve science was still outstanding, and they agreed to reserve judgement on the data until the follow-up research project to generate species-area curves reported. They agreed that the principle of species curves and heuristic combination was accepted and acceptable to be used in the guidance.

A1.16. The Chief Scientists met again on 15 December 2009 to discuss the comments from peer reviewers on the Roberts *et al.* connectivity report (Roberts, et al. 2010). They noted the widespread support for Professor Callum Roberts *et al.*'s work on connectivity; that the peer review recognised the considerable uncertainty in this science field; and that this raised issues about how to apply the work in the field. The Chief Scientists agreed that, while the connectivity principle is not unimportant, it should not drive the MPA network design and should be a secondary consideration, applying a 'rule of thumb' approach, and advised the authors to update the draft ENG.

A1.17. The Chief Scientists of Defra and Natural England, JNCC's Marine Director and Defra's Deputy Chief Scientific Adviser met on 7 April 2010 to discuss the comments from peer reviewers on the Hill *et al.* report on viability and Rondinini reports on adequacy. The Chief Scientists concluded that they were content with the outcomes of the review and that the reports and ENG should be updated following the comments. They also noted that '*the seven principles should be applied holistically in taking decisions about creating and managing marine conservation zones and establishing an ecologically coherent network of marine protected areas, and stakeholders should not look to satisfy each principle in isolation*'.

A1.18. For the review of the Roberts *et al.* connectivity research Defra's Senior Scientific Adviser (Marine Biodiversity) selected the reviewers from a long list of potentials provided by Defra's Senior Scientific Adviser (Marine Biodiversity), stating that Defra's Chief Scientific Adviser had commented that he would have been '*very happy with any/all from this list*'.

A1.19. JNCC and Natural England were asked to nominate scientists for peer review of the adequacy and viability reports. We submitted a list based on knowledge of relevant peer-reviewed publications. Defra's Senior Scientific Adviser (Marine Biodiversity) selected scientists from this list.

A1.3.5.Reviews of the Ecological Network Guidance

A1.20. The ENG went through a series of iterations and was reviewed by different groups and organisations at several different stages. These included:

- the UK Marine Biodiversity Policy Steering Group⁶⁵ (who reviewed version 3.0 in July 2009 and version 8.0 in March 2010),
- the MCZ Technical Support Group (who reviewed version 1.0 in March 2009, version 5.0 in September 2009 and version 8.0 in March 2009),
- Defra (as part of the MCZ Project board Defra staff received for review version 2.0 in March 2009, version 3.0 in July 2009, version 4.0 in August 2009, version 6.0 in October 2009, version 7.0 in March 2010 and version 8.0 in March 2010. As part of the MCZ Technical Support Group they received the additional versions listed in the previous bullet)
- the then newly appointed Science Advisory Panel (SAP) (who reviewed version 6.0 in January 2010 as a group and individuals from the panel also reviewed version 8.0 in March 2010).

A1.21. The version control pages within the document show the build status and distribution list of each version (Natural England and the Joint Nature Conservation Committee 2010).

A1.3.6.Sharing the Ecological Network Guidance with stakeholders

A1.22. Version 7.0, updated with comments from the SAP and Defra, was issued to the MCZ Project Board on 12 March 2010 and version 8.0, updated with comments from the plain English review, was shared with stakeholders on 17 March 2010. Natural England and JNCC directly alerted many stakeholder groups via email to the opportunity to provide comments and published the draft ENG on their websites. These groups were:

- The regional MCZ projects
- The UK MPA Policy Group
- The UK Marine Biodiversity Policy Steering Group
- The SAP
- The MPA Fishing Coalition
- Stakeholders who had requested via a JNCC stakeholder survey to be kept informed of developments in the MCZ Project.

We also requested the regional MCZ projects to pass the invitation to comment to representatives (or proposed representatives) of their stakeholder groups.

A1.23. We invited stakeholders to provide views on:

- *How we can ensure that the text, figures and tables are clear, well understood and cannot be misinterpreted;*
- *If there is any additional detail you recommend we include to improve your understanding;*
- *If there is any detail that is irrelevant and should be removed from the document.*

A1.24. We stated in the covering letter to stakeholders that *we will be unable to consider comments on the scientific basis of the ENG, whether there is additional scientific research that could have been*

⁶⁵ See <http://archive.defra.gov.uk/environment/biodiversity/marine/documents/mbpsg-tor.pdf> for their terms of reference.

considered in the development of the document or its consistency with Government policy. This was due to the existence of previous scientific reviews, including by the SAP, and policy reviews by Defra.

A1.25. The ENG was open for comment for 15 working days between 17 March and 9 April 2010. We received 59 responses in total with nine received after the deadline. These 59 responses were from 50 individuals representing 41 organisations, including marine industries, regulators, NGOs and academics. Version 8.0 was also released to Natural England's Evidence Steering Group meeting for discussion at its April meeting.

A1.3.7. Sign-off and publication

A1.26. The ENG was updated following stakeholder comments and the review of the science on adequacy and viability by the Chief Scientists. Version 9.0 was provided to the Natural England non-Executive Board and JNCC MPA Sub-Group on 30 April 2010 for review and sign-off. Sign-off of the ENG occurred on 26 May 2010 and the final version (v10.0) was published on 8 June 2010 along with a summary of stakeholder responses to version 8.0 and how we dealt with them.

A1.3.8. Decisions on consultation and review

A1.27. It was originally envisaged that the draft ENG would be shared with stakeholders for the standard 12-week period and this would be in autumn/winter 2009. Defra advised that it preferred it should not to be widely shared while the science was still under review and advice might change. Defra later advised that it preferred the Ministerial Statement to be issued before the publication of the ENG.

A1.28. Natural England and JNCC were committed to publishing the ENG as soon as possible once the research contracts were complete and peer reviews undertaken. In order to achieve sign-off of the guidance at the May 2010 Natural England Board⁶⁶ meeting a 12-week consultation after publication of the Ministerial Statement in March 2010 was not possible. The suggestion to share the guidance with stakeholders came from JNCC and followed a similar approach used in Scotland for MPA work.

A1.29. A final science review was built into the timetable after the Chief Scientists' meeting in September 2009. There was subsequent discussion as to whether this would be undertaken by external peer reviewers appointed by Defra, the SAP or Natural England Science Advisory Committee (NESAC). The SAP provided extensive comments in January 2010. JNCC's Chief Scientist and Marine Director also commented on version 4.0. The authors proposed that as the SAP had reviewed the draft ENG and the connectivity, adequacy and viability reports had been/were being externally peer-reviewed this final science review should be dropped or that NESAC be involved instead due to time constraints. However, it was decided that there was not the time for NESAC to undertake a full review and Natural England's Chief Scientist decided it was not appropriate for NESAC to answer questions around the interpretation of the research because this would have included reflecting Government policy, which is outside the terms of reference of NESAC.

A1.30. At the meeting of the Chief Scientists in April 2010 Defra's Chief and Deputy Chief Scientific Adviser expressed a desire to read the ENG and provide comments to the deadline of the end of the sharing period if they had any issues of concern. No comments were received or concerns raised.

Policy issues

⁶⁶ The next Board meeting after this was 27–28 July 2010, which would have meant a further delay of two months.

- A1.31. Defra provided comments on the ENG prior to it being shared with stakeholders (particularly on versions 5.0 and 6.0). The authors provided a response to Defra on how their comments were addressed and Defra did not request further changes. JNCC and Natural England were not required to seek formal endorsement of the ENG from Defra but we were obviously keen that Defra did not have any significant concerns with the document. They did not raise any further concerns. A covering email from Defra's lead Deputy Director at the time (March 2010) states that Defra recognised the ENG is JNCC and Natural England's formal guidance and advice which Defra neither planned to endorse nor dismiss.
- A1.32. JNCC and Natural England recognised that the levels at which some of the quantitative guidelines were set was both a policy and ecological issue. At the meeting between the ENG authors and Defra in December 2009, Defra expressed a plan to question the Minister on his ambitions for MCZs. The note of the meeting states that this would include issues around biogeography, reference areas and replication. Defra provided no record of the questions being asked of the Minister or of any response.
- A1.33. JNCC and Natural England wished to obtain policy steer from Defra on the heuristics for numerical guidelines to use for viability, adequacy and replication. However, following a request for this in February 2010 no substantive response was received from Defra. In the absence of a response JNCC and Natural England based the numerical guidelines on our understanding of Defra policy and Defra raised no concerns at this.

A1.3.9. Summary and conclusions

- A1.34. The ENG was in production for over 15 months. It was based on OSPAR and other international guidance and complied with Defra policy (Defra 2010a, Defra 2010b, OSPAR 2006-3). It provided the regional MCZ projects with practical guidelines with which to select areas as MCZs. It was extensively reviewed before publication both internally and externally and by scientists and stakeholders.
- A1.35. The process of producing the ENG can be assessed against the four principles of the Natural England draft standard 'Quality assurance of use of evidence including peer review':
- Was the evidence used of a quality and relevance appropriate to give advice or decisions?
 - The evidence used within the ENG was reviewed by the SAP, and the Chief Scientists of Defra, JNCC and Natural England. We consider that it was based on evidence of an appropriate quality
 - Analysis carried out is appropriate to the evidence available and the issue under consideration.
 - There was no specific analysis carried out within the development of the ENG
 - Conclusions are drawn which clearly relate to the evidence and analysis.
 - The conclusions can be taken as the specific guidelines within the ENG. The ENG was reviewed by the SAP, the Chief Scientists of Defra, JNCC and Natural England and wider stakeholders before sign-off. Natural England and JNCC produced a non-technical version of the guidelines to ensure they were clearly understood by the regional project stakeholders
 - Uncertainty arising due to the nature of the evidence and analysis is clearly identified and explained.
 - Each section of the ENG explains the justification for the guidelines. Where the science is less certain, such as around the adequacy principle, we state this clearly in the ENG and the judgements made are clearly identified and justified.
- A1.36. In summary, we believe the ENG was developed in a quality assured manner using the best available evidence. The quality of the product was assured by external review groups.

A1.4. Conservation Objective Guidance

A1.4.1. Background

A1.37. The ENG outlined the need for more specific guidance on developing conservation objectives. Developing conservation objectives is a key part of identifying and recommending MCZs and, as they will be part of the designating order, clear guidance to the RSGs was needed. The COG outlines the MCZ draft conservation objectives content and structure and recommends a process for RSGs to follow so they can propose the initial draft conservation objectives.

A1.38. The COG outlines a process to develop conservation objectives. It describes the information and evidence required for each step of the process, including the use of direct evidence on feature condition, or the use of a vulnerability assessment approach in the absence of data on feature condition. The guidance explains the method to undertake vulnerability assessments using information on sensitivity of features and exposure to pressures to estimate the current condition of features and therefore the conservation objective required to reach their desired condition (known as favourable condition or, in reference areas, reference condition).

A1.4.2. Links with existing guidance and good practice

A1.39. The process for developing conservation objectives for MCZs is similar to that followed by the Statutory Nature Conservation Bodies (SNCBs) when writing conservation objectives for European marine sites (EMS) (EN, SNH, CCW, EHS (DoE(NI)), JNCC & SAMS 2001). This latter process was determined through the UK Marine Special Areas of Conservation (SAC) Project and was extensively reviewed at the time by the SNCBs. The scope of the COG was developed in conjunction with Defra to ensure compatibility with Government policy.

A1.4.3. Internal reviews of the Conservation Objective Guidance

A1.40. JNCC and Natural England developed a draft scope for the guidance in July 2010. This described the proposed structure for the guidance, highlighting issues and the proposed process for developing conservation objectives.

A1.41. This scope was discussed internally amongst JNCC and Natural England staff involved in the development of conservation objectives for Natura sites, and shared with the Countryside Council for Wales (CCW), Scottish Natural Heritage (SNH) and the Northern Ireland Department of Environment (NIDoE). We invited the other country agencies to comment on the content and proposed approach and these comments were used to inform the development of the guidance.

A1.42. Between August 2010 and July 2011, the draft guidance was reviewed several times by a variety of JNCC and Natural England staff including ecologists, industry advisers, other technical specialists and managers (see page 1 of (Natural England & JNCC 2011a)). The authors updated the guidance following these comments.

A1.4.4. External reviews of the Conservation Objective Guidance

A1.43. In September 2010, the draft guidance was reviewed externally by the regional MCZ projects, Defra, the Marine Management Organisation (MMO), CCW, SNH and NIDoE. In November 2010, we released a working draft to the regional MCZ projects for testing in stakeholder workshops, and to Defra, MMO, CCW, SNH and NIDoE.

A1.44. In December 2010, a draft of the guidance was submitted to the MPA Technical Group and we requested comments from CCW, SNH and NIDoE. Natural England and JNCC uploaded version 1.0 onto our websites in January 2011. Defra provided a further review in April 2011. In addition, the MPA Technical Group was asked to review the definition of favourable condition in May 2011. The final version of the guidance v2.0 was placed on Natural England's website in August 2011,

following discussions internally and with Defra regarding the definition of favourable condition for features within MCZs. We only received one external comment on the COG and this was about the process for its development.

A1.4.5. Sign-off of the Conservation Objective Guidance

A1.45. Version 1 of the guidance was signed off by the MCZ Project Board before publishing on the websites, along with the non-technical summary. The final version (v2.0) was signed off by the nominated Senior Responsible Officer for the work (Marine Principal Adviser) and made available with the non-technical summary on Natural England's website in August 2011.

A1.4.6. Summary and conclusions

A1.46. The COG can retrospectively be classed as a tier 2 document using Natural England's draft quality assurance standard and therefore required internal peer review. The guidance followed existing processes for writing conservation objectives for EMS. The COG was subject to several stages of internal peer review during its development and was also reviewed by Defra and other Arm's Length Bodies and SNCBs. A draft version was tested by the RSGs.

A1.47. The COG used no new evidence itself but outlined a process for using evidence to determine current condition of features and therefore the conservation objective required to reach the desired condition. However, it can still be tested against the principles of quality assurance:

- Was the evidence used of a quality and relevance appropriate to give advice or decisions?
 - The process for using evidence outlined in the COG is based on good practice from developing conservation advice for EMS. The COG outlines the types and sources of evidence which should be used in developing conservation objectives. We consider the evidence used to therefore be appropriate
- Analysis carried out is appropriate to the evidence available and the issue under consideration.
 - The analysis needed within the vulnerability assessments is outlined in the document and is linked to the process for EMS and we consider this to be appropriate for the evidence available
- Conclusions are drawn which clearly relate to the evidence and analysis.
 - The conclusions of the vulnerability assessment are stated to be precautionary and that a pragmatic approach should be adopted when assessing feature vulnerability
- Uncertainty arising due to the nature of the evidence and analysis is clearly identified and explained.
 - The COG itself does not describe uncertainty directly but refers to limitations and assumptions described in documents accompanying the features-sensitivity and pressures-activities matrices. It states that the draft conservation objectives developed by the regional stakeholder groups are initial judgements and that more detailed evidence may be required to finalise the objective. It requests that limitations in the evidence discovered through producing the conservation objectives are identified in the regional MCZ project submissions and that any outstanding disagreements over the recommended conservation objectives are logged.

A1.48. We conclude that the COG therefore met the principles of quality assurance.

Annex 2 Metadata and data inventory of the national and regional datasets used by the regional projects, JNCC and Natural England in reaching the recommendations

Advice to Defra

Best available evidence is constantly evolving. The regional MCZ projects used the most relevant regionally collected and national data and the recommendations were based on best available scientific evidence at that time

*JNCC and Natural England **note** that further work is needed to collate metadata for regionally sourced data to inform the evidence assessment of the recommended features*

*JNCC and Natural England **advise** that future evidence should be quality assured before inclusion in site assessment work to keep the best available scientific evidence up to date.*

Key messages

The evidence used in the regional MCZ project process included data supplied by national contracts, regionally and locally sourced data and expert knowledge.

JNCC and Natural England undertook an audit of the data that were provided to the regional MCZ projects and presented the information using the MEDIN discovery metadata standard.

When local and lay data were collected as stated by the ENG, no specific quality assurance was required. Some owners of the data were unwilling or unable to provide the required information.

A2.1 Aims of the Annex

A2.1 To provide an inventory of the metadata and used by the regional Marine Conservation Zone (MCZ) projects, JNCC and Natural England in reaching the recommendations. This is linked to the request to JNCC and Natural England to discuss the evidence used by ourselves and the regional MCZ projects (see [Section 1.2](#)).

A2.2 Introduction

A2.2 The evidence used in the regional MCZ project process included data supplied by national contracts, regionally and locally sourced data and expert knowledge. There were variations in the information available, and these include:

- Data sourced from national monitoring programmes
- Survey programmes to inform development projects, like the regional environmental characterisations, undertaken by Industry
- Statutory Nature Conservation Body (SNCB) programmes to map and monitor features listed in the Habitats Directive and
- Information based on modelled outputs, such as UK SeaMap⁶⁷
- Locally sourced data such as the Wildlife Trust and stakeholder collected data.

A2.3 Therefore the information varies in terms of the resolution of the data (spatial and/or biological), its accuracy, its confidence and its source (local knowledge or national datasets). JNCC and Natural England undertook an audit of the data that were provided to the regional MCZ projects based on the MEDIN discovery metadata standard⁶⁸ but with additional information where this was available

⁶⁷ <http://jncc.defra.gov.uk/page-2117>

⁶⁸ http://www.oceannet.org/marine_data_standards/

to improve clarity. These data include the type and sources of biological, physical, boundary, pressures and human activities datasets.

A2.4 This annex contains the tables with detail information associated with the national datasets and the data inventory for the regionally sourced data, both following MEDIN guidance. The information includes the description of the data, format, source of the data, spatial reference information if available etc. The tables below contain data quality and metadata information available for the national datasets provided by JNCC, Natural England and Defra, and the regionally sourced data submitted by stakeholders.

A2.3 Nationally sourced data

A2.5 MEDIN metadata were made for each national dataset, for example UK SeaMap, and pulled into the table below (**Table 33**) which list the lineage of each dataset, publication dates and links to further information.

A2.6 The Defra contract data supplied metadata but, due to the technical difficulties in the time frame, it was not possible to format the information into spreadsheet format. However, this is in the process of being published through MEDIN⁶⁹.

A2.4 Regionally sourced data

A2.7 **Table 34** contains the data inventories supplied to JNCC and Natural England by the regional projects. This includes data supplied by local NGOs, fishermen and regional research programmes. These have been consolidated into one inventory. This shows the MEDIN metadata that was supplied to the SNCBs prior to the evidence assessment (see [Section 5.1](#)).

A2.8 Please note that some of the information will be missing from the catalogues due to the gaps in the information submitted by the regional MCZ projects during the handover. When local and lay data were collected as stated by the Ecological Network Guidance (ENG), no specific quality assurance was required. Some owners of the data were unwilling or unable to provide the required information. Therefore a cell showing a '0' indicates that information is not available or was not submitted by the provider.

A2.5 Conclusions

A2.9 Best available evidence is constantly evolving. The regional MCZ projects used the most relevant regionally collected and national data and the recommendations were based on best available scientific evidence at that time.

A2.10 In the near future, work is needed to collate further metadata for regionally sourced data to inform the evidence assessment of the recommended features. This will form part of the Defra MB0116 contract to conduct an in-depth review of the MCZ evidence base. Future evidence will be quality assured before inclusion in site assessment work to keep the best available scientific evidence up to date.

⁶⁹ <http://portal.oceannet.org/search/full/catalogue?q=MB102&sd=&ed=&t=co&a=&bbox=>

Table 33 Nationally sourced datasets

Spatial reference system	Resource title	Resource abstract	Originator	Frequency of update	Spatial resolution	Topic category	Date of publication start	Date of publication end	Additional source	Metadata date	Metadata standard name	Metadata standard version	Lineage
urn:ogc:def:crs:EPSG::4326	Combined full coverage MESH and UKSeaMap EUNIS level 3 habitat map	This is a layer to produce a combined map which will provide the regional projects with a full coverage baseline habitat map based on the best available data at the present time. The map uses the MESH combined EUNIS layer merged with the UKSeaMap 2010 EUNIS predictive habitat layer. Where there are overlaps between the two layers, MESH polygons from surveys with confidence scores >58% will be used in place of modelled data. For survey data to have a confidence score of >58%, the survey techniques must have used a combination of remote sensing and ground truthing to derive the habitat types. The background for each of these layers is given below. MESH combined EUNIS layer: this is an extract of the most comprehensive map of marine EUNIS habitats in the waters around the UK, France, Belgium, Netherlands and Ireland derived from surveys. This a flagship product of the MESH project (see www.searchMESH.net). This extract has removed data for areas outside the UK continental shelf and data with confidence scores less than 58 %. The map is a product of combining all habitat maps collated by MESH which have been translated to the EUNIS classification, and removing any areas of overlap. Areas of maps are removed if they are overlapped by a map having a higher overall confidence score. Information (metadata) about the individual maps in this layer is held in the MS Access database, MESHMetadataPublic.mdb. The GUI field in the shapefile can be linked to the Globally_unique_ID field in the Metadata table of the database. Records from the same survey all share a GUI. UKSeaMap 2010 layer: this shapefile is a predictive EUNIS seabed habitat layer for the UK continental shelf. The layer has been created using substrate, biological zone, energy and biogeographic data. Substrate data consisted of data from a pre-release version of BGS DigSBS v2, NOC Deep Sea substrate data (MB0105), Rock/hard substrate data (MB0103) and WFD substrate data for coastal and transitional areas. The substrate map contains some differences in the distribution of rock in Welsh areas to the final MB103 layer. Some coastal gaps in the substrate layer were filled in using data from MNCR habitat maps. Biological Zone data consisted of three different layers: the biological zone layer created by ABPmer (MB0102 – Task 1C), a Deep Sea layer constructed using boundaries recommended by Kerry Howell and estuaries defined by the WFD salinity data). The energy layer was constructed by combining wave-induced seabed kinetic energy and tidal current-induced seabed kinetic energy. The wave & tidal current layers were separately divided into high, moderate and low energy categories using thresholds derived under the UKSeaMap 2010 project. The final combined energy layer chose the highest category from either the wave or tidal current-	JNCC	irregular		Biota; environment	03/08/2010	14/07/2011		03/08/2011			The map uses the MESH combined EUNIS layer merged with the UKSeaMap 2010 EUNIS predictive habitat layer. Where there are overlaps between the two layers, MESH polygons from surveys with confidence scores >=59% will be used in place of modelled data.

		induced kinetic energy layers to produce one single energy layer. The biogeography layer is divided into Arctic & Atlantic regions using the 500m boundary. The boundary was delineated using GEBCO 30 second bathymetry data.											
urn:ogc:def:crs:EPSG::4326	MESH combined EUNIS habitats version 3.2	This shapefile is the most comprehensive map of marine EUNIS habitats in the waters around the UK, France, Belgium, Netherlands and Ireland. This is a flagship product of the MESH project (see www.searchMESH.net). The map is a product of combining all habitat maps collated by MESH which have been translated to the EUNIS classification, and removing any areas of overlap. Areas of maps are removed if they are overlapped by a map having a higher overall confidence score. Information (metadata) about the individual maps in this layer is held in the MS Access database, MESHMetadataPublic.mdb. The GUI field in the shapefile can be linked to the Globally_unique_ID field in the Metadata table of the database. Records from the same map all share a GUI.	JNCC	irregular	1	Biota; environment	01/06/2010	01/06/2010	www.searc hMESH.net	01/06 /2010			<p>The map is a product of combining all habitat maps collated by MESH which have been translated to the EUNIS classification, and removing any areas of overlap. Areas of maps are removed if they are overlapped by a map having a higher overall confidence score.</p> <p>This version supersedes the previous version created in 2008, with areas added that have been translated to the EUNIS classification since 2008.</p> <p>Changes since version 3.1: HAB_TYPE now contains EUNIS 2008 codes, where possible. There is an extra column at the end, HAB_TYPE04 containing EUNIS 2004 codes, as the fields describing the details of the translation from the original habitat (ORIG_HAB) relate to the translation to EUNIS 2004.</p> <p>Some codes remain for now as EUNIS 2004, as we do not yet have the correlation table completed for these codes; however, it is likely that they will be the same in EUNIS 2008. The codes are B1, B1.31 and B2.3.</p> <p>Additional data: GB001038.</p>
urn:ogc:def:crs:EPSG::4326	UKSeaMap 2010 predictive seabed habitat map	This shapefile is a predictive EUNIS seabed habitat layer for the UK continental shelf. The layer has been created using five layers: substrate, biological zone, energy, salinity and biogeographic data. Substrate data consisted of data from a pre-release version of BGS DigSBS v2, NOC Deep Sea substrate data (MB0105), Rock/hard substrate data (MB0103) and WFD substrate data for coastal and transitional areas. Some coastal gaps in the substrate layer were filled in using data from MNCR habitat maps. Biological Zone data consisted of three different layers: the biological zone layer created by ABPmer (MB0102 – Task 1C), a Deep Sea layer constructed using boundaries recommended by Kerry Howell and estuaries defined by the WFD salinity data. The energy layer was constructed by combining wave-induced seabed kinetic energy and tidal current-induced seabed kinetic energy. The wave & tidal current layers were separately divided into high, moderate and low energy categories using thresholds derived under the UKSeaMap 2010 project. The final combined energy layer chose the highest category from either the wave or tidal current-induced kinetic energy layers to produce one single energy layer. Salinity data came from the WFD typology report (Rogers et al., 2003). The boundary between the polyhaline and euhaline salinity zones was defined as the boundary between marine and variable salinity areas. The biogeography layer is divided into Arctic and Atlantic regions using the 500m boundary. The boundary was delineated using GEBCO 30 second bathymetry data.	JNCC	irregular	250	Biota; environment	16/05/2011	16/05/2011	McBreen, F., Askew, N., Cameron, A., Connor, D., Ellwood, H. and Carter, A. 2011. UKSeaMap 2010: Predictive mapping of seabed habitats in UK waters. JNCC Report, No. 446 (jncc.defra.gov.uk/ukse amap)	23/11 /2011	MEDIN Discovery metadata standard	2.3.4	<p>The layer has been created using five layers: substrate, biological zone, energy, salinity and biogeographic data. Substrate data consisted of data from a pre-release version of BGS DigSBS v2, NOC Deep Sea substrate data (MB0105), Rock/hard substrate data (MB0103) and WFD substrate data for coastal and transitional areas. Some coastal gaps in the substrate layer were filled in using data from MNCR habitat maps. Biological Zone data consisted of three different layers: the biological zone layer created by ABPmer (MB0102 – Task 1C), a Deep Sea layer constructed using boundaries recommended by Kerry Howell and estuaries defined by the WFD salinity data. The energy layer was constructed by combining wave-induced seabed kinetic energy and tidal current-induced seabed kinetic energy. The wave and tidal current layers were separately divided into high, moderate and low energy categories using thresholds derived under the UKSeaMap 2010 project. The final combined energy layer chose the highest category from either the wave or tidal current-induced kinetic energy layers to produce one single energy layer. Salinity data came from the WFD typology report. The boundary between the polyhaline and euhaline salinity zones was defined as the boundary between marine and variable salinity areas. The biogeography layer is divided into Arctic and Atlantic regions using the 500m boundary. The boundary was delineated using GEBCO 30 second bathymetry data.</p>
http://www.epsg-registry.org/indic io/query	2010 Natural England South Wight Multibeam Survey	NETSURVEY was contracted by Natural England to carry out a bathymetric survey to (International Hydrographic Organisation (IHO) Order 1A standards, with IHO Special Order over the reef areas of the South Wight European Marine Site. Encompassing a large range of reef habitats and associated marine communities, the site includes some	Natural England	Not Planned	2	Geoscientific Information	13/02/2010	01/03/2010		2011-02-22	MEDIN Discovery metadata standard	2.3.2	IHO Order 1A standards, with IHO Special Order over the reef areas.

<p>?reques t=GetRe positoryI tem&Id= urn:ogc: def:crs: EPSG:: 32630</p>		<p>of the most important subtidal chalk reefs in Britain, representing 5% of Europe's coastal chalk exposures, and supporting a diverse range of species. NetSurvey was tasked to obtain comprehensive, high quality coverage of seabed bathymetry of the site through a combination of multibeam and backscatter imagery. The data accompanying this report is not from a UK Hydrographic Office (UKHO) tasked survey but is rendered in a way that is suitable for submission to the UKHO.</p>									
<p>OSGB 1936 / British National Grid (EPSG: 27700)</p>	<p>Marine Conservation Zones</p>	<p>Marine Conservation Zones (MCZs) are designated under the Marine and Coastal Access Act 2009. MCZs protect nationally important marine wildlife, habitats, geology and geomorphology in English inshore waters and offshore waters next to England, Wales and Northern Ireland. By using this data you are accepting the Terms of Use for Natural England's Information and Data as published at: http://www.naturalengland.org.uk/copyright. If you wish to use the data for commercial purposes you should contact Natural England's Enquiry Service, tel: 0845 600 3078, email: enquiries@naturalengland.org.uk.</p>	<p>Natural England</p>	<p>monthly</p>	<p>1</p>	<p>Environment; planning Cadastre; oceans; farming</p>	<p>01/01/ 1970</p>	<p>01/01/ 2099</p>			<p>All data is captured to the Ordnance Survey National Grid, sometimes called the British National Grid. OS Master Map Topographic Layer – produced and supplied by Ordnance Survey from data at 1:1250, 1:2500 and 1:10000 surveying and mapping standards – is used as the primary source. Other sources – acquired internally and from external suppliers – may include aerial imagery at resolutions ranging from 25cm to 2m, Ordnance Survey 1:10000 raster images, historical OS mapping, charts and chart data from UK Hydrographic Office and other sources, scanned images of paper designation mapping (mostly originally produced at 1:10560 or 1:10000 scales), GPS and other surveyed data, and absolute co-ordinates. The data was first captured against an August 2002 cut of OS MasterMap Topography. Natural England has successfully uploaded an up-to-date version of OS MasterMap Topographic Layer. However, we have not yet updated our designated data holding to this new version of MasterMap. This should occur in the near future, when we will simultaneously apply positional accuracy improvement (PAI) to our data.</p>
<p>OSGB 1936 / British National Grid (EPSG: 27700)</p>	<p>Ramsar sites</p>	<p>A Ramsar site is the land listed as a Wetland of International Importance under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (the Ramsar Convention) 1973. Data supplied has the status of 'Listed'. The data does not include 'proposed' sites. Boundaries are mapped against Ordnance Survey MasterMap. By using this data you are accepting the Terms of Use for Natural England's Information and Data as published at: http://www.naturalengland.org.uk/copyright. If you wish to use the data for commercial purposes you should contact Natural England's Enquiry Service, tel: 0845 600 3078, email: enquiries@naturalengland.org.uk.</p>	<p>Natural England</p>	<p>monthly</p>	<p>1</p>	<p>environment; planning Cadastre; oceans; farming</p>	<p>01/01/ 1970</p>	<p>01/01/ 2099</p>			<p>All data is captured to the Ordnance Survey National Grid sometimes called the British National Grid. OS MasterMap Topographic Layer – produced and supplied by Ordnance Survey from data at 1:1250, 1:2500 and 1:10000 surveying and mapping standards – is used as the primary source. Other sources – acquired internally and from external suppliers – may include aerial imagery at resolutions ranging from 25cm to 2m, Ordnance Survey 1:10000 raster images, historical OS mapping, charts and chart data from UK Hydrographic Office and other sources, scanned images of paper designation mapping (mostly originally produced at 1:10560 or 1:10000 scales), GPS and other surveyed data, and absolute co-ordinates. The data was first captured against an August 2002 cut of OS MasterMap Topography. Natural England has successfully uploaded an up-to-date version of OS MasterMap Topographic Layer. However, we have not yet updated our designated data holding to this new version of MasterMap. This should occur in the near future, when we will simultaneously apply positional accuracy improvement (PAI) to our data.</p>
<p>OSGB 1936 / British National Grid (EPSG: 27700)</p>	<p>Sites of Special Scientific Interest</p>	<p>A Site of Special Scientific Interest (SSSI) is the land notified as an SSSI under the Wildlife and Countryside Act (1981), as amended. Sites notified under the 1949 Act only are not included in the Dataset. SSSI are the finest sites for wildlife and natural features in England, supporting many characteristic, rare and endangered species, habitats and natural features. The data do not include 'proposed' sites. Boundaries are generally mapped against Ordnance Survey MasterMap. By using this data you are accepting the Terms of Use for Natural England's Information and</p>	<p>Natural England</p>	<p>monthly</p>	<p>1</p>	<p>environment; planning Cadastre; Oceans; farming</p>	<p>01/01/ 1970</p>	<p>01/01/ 2099</p>			<p>All data is captured to the Ordnance Survey National Grid sometimes called the British National Grid. OS MasterMap Topographic Layer – produced and supplied by Ordnance Survey from data at 1:1250, 1:2500 and 1:10000 surveying and mapping standards – is used as the primary source. Other sources – acquired internally and from external suppliers – may include aerial imagery at resolutions ranging from 25cm to 2m, Ordnance Survey 1:10000 raster images, historical OS mapping, charts and chart</p>

GCS_WGS_1984	Marine recorder	As part of the National Biodiversity Network (NBN) development, Marine recorder application captures marine (benthic) biological data.	JNCC	irregular	1	biota; environment	01/07/1954 - 01/06/2010		http://jncc.defra.gov.uk/default.aspx?page=1599 http://esdm.co.uk/MarineRecorder/index.html			As part of the National Biodiversity Network (NBN) development, Marine recorder application captures marine (benthic) biological data. JNCC holds the database containing sample information for surveys. Three datasets were provided to the regional projects, split in to habitat, biotope and species data points, as well as the access database of survey and sample information from Natural England, JNCC, Seasearch and CCW surveys.	
GCS_WGS_1984	JNCC draft regional Seas	Draft JNCC Regional Seas as at January 2009 for UK waters only. As of January 2009 this is the Regional Seas shapefile file that should be used for any internal or external work. Please refer to it (in figure captions etc) as: UK Draft Regional Seas (JNCC, January 2009) Updated by EV originally from the shapefile 'RegionalSeasFeb04.shp'. The file has gone through several iterations since August 2007 when a review began. Changes made on the basis of review of boundaries based on UKSeaMap data and other data (see associated paper).	JNCC	irregular	1	environment; planning Cadastre; oceans; farming	01/01/2009		http://jncc.defra.gov.uk/default.aspx?page=1612	01/01/2009		Draft JNCC Regional Seas as at January 2009 for UK waters only. As of January 2009 this is the Regional Seas shapefile file that should be used for any internal or external work. Please refer to it (in figure captions etc) as: UK Draft Regional Seas Updated by EV at JNCC originally from the shapefile 'RegionalSeasFeb04.shp'. The file has gone through several iterations since August 2007 when a review began. Changes made on the basis of review of boundaries based on UKSeaMap data and other data (see associated paper).	
GCS_WGS_1984	MCZ project boundaries	The MCZ Project was set up in 2009 and consisted of four regional MCZ projects covering the south-west (Fishing Sanctuary), Irish Sea (Irish Sea Conservation Zones), North Sea (Net Gain) and south-east (Balanced Seas).	JNCC	Not to be updated	1	environment; planning Cadastre; Oceans; farming	28/06/2011		http://jncc.defra.gov.uk/page-2409	28/06/2011		The exact limits of the UK Continental Shelf are set out in orders made under section 1(7) of the Continental Shelf Act 1964, UK Limits provided by UKHO Law of the Sea Division, Coastline reproduced from Ordnance Survey map data by permission of the Ordnance Survey	
urn:ogc:def:crs:EPSG::27700	2002 Natural England Fal and Helford European Marine Site Sublittoral Monitoring		Natural England ; Natural England	Not planned			2001-10-09				MEDIN Discovery metadata standard	2.3.2	
urn:ogc:def:crs:EPSG::4326	2010 Defra MB0102 2C Distribution of seagrass beds (from polygon data) in the United Kingdom and Isle of Man	This layer shows the distribution of point records of seagrass beds, a Biodiversity Action Plan and OSPAR Habitat. This layer forms one of a set of data layers created for the Defra MB0102 contract. This work will support the delivery of a network of Marine Protected Areas as required to meet existing international and national obligations and commitments, including Marine Conservation Zones (MCZs), a new measure to be delivered as part of the Marine and Coastal Access Bill, and equivalent measures under Scottish legislation. The availability of these data layers will also be of importance in underpinning Marine Planning (e.g. licensing) in our marine area.	Marine Biological Association of the UK (MBA); Department for Environment, Food and Rural Affairs (Defra)	Not planned		biota	1847-01-01		http://randd.defra.gov.uk/Document.aspx?Document=MB0102_9175_TRP.pdf		MEDIN Discovery metadata standard	2.3.2	This dataset was created as part of the Defra MB0102 contract. Data was collated from a range of conservation and academic organisations and through a literature search. Full survey information is available from the survey table in the project geodatabase which can be joined to the layer by the Survey ID Field Explanations. Original Habitat Name: the habitat code, species name or feature recorded in the original survey. Habitat Name: the current accepted name for the habitat as described by the relevant designation. Survey ID: a link to survey information. Where data is entered into Marine Recorder this refers to the MR SurveyID. A few surveys could not be entered into Marine Recorder without risk of duplication occurring. e.g. Seasearch data that will be entered into MR at a later date, data from polygons etc. These have been given a project surveyID using the reference: MPALAYERS0000XX. Date: The date the habitat was recorded if known. Vague dates have been entered as the first of a month, if only the month is known, e.g. 01/03/89 or as 1 January if only the year is known, e.g. 01/01/78. Unknown dates show as 00:00:00. Location Name: the location or site name where provided. SampleID: for Marine Recorder surveys the sample_key field has been entered. Event name: where known an event name has been provided. Latitude: the latitude of the sample point. Longitude: the longitude of the sample point. Determiner: where known the determiner of the habitat record as specified in Marine Recorder. For non-MR surveys the recorder has been inputted to this field as it has been assumed that the recorder is the determiner unless

												otherwise stated. Classification: the classification used to establish the original habitat e.g. EUNIS version 2004. If the habitat has been classified directly from species data then the designation e.g. BAP is used. Designation: the conservation designation appropriate e.g. BAP, OSPAR. Please note that The OSPAR and BAP definitions may differ so not all records may have the same designation. Status: The biotope status as defined by two terms: Certain – a certain record of the habitat. Habitat likely – a record of evidence, e.g. species abundances, Co-ordinate Precision: an estimate of the spatial resolution in metres of the co-ordinate, based on survey method, date and the derivation of the co-ordinates. This ranges from 10 to 10000 metres.
urn:ogc: def:crs: EPSG:: 4326	2010 Defra MB0102 2C Distribution of Seagrass beds (from polygon data) in the United Kingdom and Isle of Man	This layer shows the distribution of polygon records of seagrass beds, a Biodiversity Action Plan Habitat. This layer forms one of a set of data layers created for the Defra MB0102 contract. This work will support the delivery of a network of Marine Protected Areas as required to meet existing international and national obligations and commitments, including Marine Conservation Zones (MCZs), a new measure to be delivered as part of the Marine and Coastal Access Bill, and equivalent measures under Scottish legislation. The availability of these data layers will also be of importance in underpinning Marine Planning (e.g. licensing) in our marine area.	Marine Biological Association of the UK (MBA); Department for Environment, Food and Rural Affairs (Defra)	Not planned		biota	1986-08-11		http://randd.defra.gov.uk/Document.aspx?Document=MB0102_9175_TRP.pdf	MEDIN Discovery metadata standard	2.3.2	This dataset was created as part of the Defra MB0102 contract. Data was collated from a range of conservation and academic organisations and through a literature search. Full survey information is available from the survey table in the project geodatabase which can be joined to the layer by the Survey ID Field Explanations. Original Habitat Name: the habitat code, species name or feature recorded in the original survey. Habitat Name: the current accepted name for the habitat as described by the relevant designation. Survey ID: a link to survey information. Where data is entered into Marine Recorder this refers to the MR SurveyID. A few surveys could not be entered into Marine Recorder without risk of duplication occurring. e.g. Seasearch data that will be entered into MR at a later date, data from polygons etc. These have been given a project surveyID using the reference: MPALAYERS0000XX Date: the date the habitat was recorded if known. Vague dates have been entered as the first of a month, if only the month is known, e.g. 01/03/89 or as 1 January if only the year is known, e.g. 01/01/78. Unknown dates show as 00:00:00. Location Name: the location or site name where provided. SampleID: for Marine Recorder surveys the sample_key field has been entered. Event name: where known an event name has been provided. Latitude: the latitude of the sample point. Longitude: the longitude of the sample point. Determiner: where known the determiner of the habitat record as specified in Marine Recorder. For non-MR surveys the recorder has been inputted to this field as it has been assumed that the recorder is the determiner unless otherwise stated. Classification: the classification used to establish the original habitat e.g. EUNIS version 2004. If the habitat has been classified directly from species data then the designation e.g. BAP is used. Designation: the conservation designation appropriate e.g. BAP, OSPAR. Please note that The OSPAR and BAP definitions may differ so not all records may have the same designation. Status: the biotope status as defined by two terms: Certain – a certain record of the habitat. Habitat likely - a record of evidence, e.g. species abundances, Co-ordinate Precision: an estimate of the spatial resolution in metres of the co-ordinate, based on survey method, date and the derivation of the co-ordinates. This ranges from 10 to 10000 metres.
urn:ogc: def:crs: EPSG::	Multibeam data for the Solway Firth, Morecambe Bay	MCA Multibeam and backscatter dataset (2007 & 2009). Collected as part of the civil hydrography programme and sent to Natural England. The data consists of geo	Natural England ;	Not		biota	0000-00-00			MEDIN Discovery metadata	2.3.2	The data was collected using Kongsberg multibeam sonar with a built in backscatter (sidescan) collection facility as data was intended for navigational charting

4326	and Lune Deep	referenced .tiff imagery. The multibeam imagery consists of 3D terrain models. The backscatter/sidescan imagery has been processed through Geocoder software (undertaken by consultants) and the resulting mosaics have been forwarded. The original data was collected for navigational purposes. However the data also provides large-scale information on the physical characteristics and bathymetry of the Outer Solway Firth and Morecambe Bay. This enables primary assessments of habitat nature and extent.	Natural England	planned						standard		purposes. The data followed MCA quality control measures on accuracy, coverage and standard deviation. The data was obtained to map the extent of subtidal reef features in the Lune Deep pSAC, Morecambe Bay SAC and outer Solway Firth SAC. The generic sensor format files were used to produce 3D bathymetry using Fledermaus. It was also possible to extract and process the backscatter data producing mosaics which chart the distribution and character of the seabed substrate. The data was collected under International Hydrographic Organisation (IHO) special order standards. The maps are ground truthed by a combination of statistical tests and cross referencing with independent vessel based-echosounders.
urn:ogc:def:crs:EPSG::27700	Mussel Bed extent for Swale Head SSSI	2010 Natural England Shellness Mussel Bed GPS survey in The Swale EMS. This survey provided the intertidal spatial distribution of the Shellness Mussel Bed from 2009 to 2010 (2011 not yet carried out). The data takes the form of a plotted MapInfo layer. The purpose of the data was to see whether mussel seed fishing was significantly impacting the size of the mussel bed. A limitation of the data was tidal variation. The survey was carried out via a walkover therefore seaward extent of the bed is only as accurate as the low tide. The bed may extend subtidally which has not been mapped. The data was collected by me and has not been quality checked.	Natural England ; Natural England	Not planned		biota	2010-01-01		Kent and Essex (Inshore Fisheries and Conservation Authority (IFCA) GIS data for mussel bed pre-2009	MEDIN Discovery metadata standard	2.3.2	Kent and Essex IFCA had previously surveyed the mussel bed and have a GIS layer. This aligns with the data from my survey. The K&E IFCA have not surveyed the mussel bed since 2009 hence this survey. Data was collected by walking around the perimeter of the mussel bed which stands proud of the sandy muddy sediment. GPS points were logged at regular intervals or at points of change in direction. Due to health and safety issues, GPS points were taken as near to low tide as possible. However as the tides change quickly here, it is likely that the entire extent of the intertidal mussel bed was not mapped (particularly with regard to the seaward boundary). The GPS points were then manually inputted into MapInfo once translated from lat longs into grid references.
	Sensitivity, Pressures and Activities Collation Tool	Spreadsheet put together by Natural England and JNCC staff to enable the relative sensitivity of marine features to be viewed for a series of pressures, along with activities associated with those pressures. The tables are built upon the data contained in the (ABPmer 2010)sensitivity matrix, as well as a matrix of associations between activities and pressures. Produced to aid the conservation objective setting by regional projects involved in the Marine Conservation Zone Project.	Natural England ; Natural England	Not planned		climatologyMeteorologyAtmosphere;structure;elevation;biota;health;planningCadastre;oceans;transportation	2010-10-01			MEDIN Discovery metadata standard	2.3.2	The tables are built upon the data contained in the (ABPmer 2010)sensitivity matrix which underwent internal peer and external QA review. The matrix methodology QA within Natural England as well as partner organisation (JNCC). No national standards followed due to the nature of the work.
http://www.epsg-registry.org/indicatio/query?request=GetRepositoryItem&id=urn:ogc:def:crs:EPSG::3395	Survey of eelgrass species (<i>Zostera spp.</i>) on intertidal habitats within the Wash and North Norfolk Coast Marine Special Area of Conservation	Paper report that investigated all sites within the SAC that were known to hold <i>Zostera spp.</i> and to investigate several other areas which historically, once held eelgrass. This repeat survey was undertaken using the same methodology as previous surveys so as to allow direct comparisons of results from 1997 (McCallum n.d.) and 2002 (R. West 2002)).	Natural England ; Natural England	Not planned		biota	2010-08-01			MEDIN Discovery metadata standard	2.3.2	This repeat survey was undertaken using the same methodology as previous surveys so as to allow direct comparisons of results from 1997 (McCallum n.d.) (McCallum n.d.) and 2002 (R. West 2002) in the intertidal habitats on the North Norfolk Coast within the Wash and North Norfolk Coast Marine SAC. All sites were searched by walking the entire area with two individuals. Where the terrain made it possible, a zigzag route was taken to survey the habitat, each pass or transect being within 15 metres of the previous one. For each site where <i>Zostera spp.</i> was recorded, the extent of the site was measured and sub-divided into convenient sized quadrats. The whole of each main quadrat was assessed for percentage coverage of both <i>Zostera</i> species (<i>Z. angustifolia</i> and <i>Z. noltii</i>) and <i>Enteromorpha spp.</i> At each site, a visual assessment was made of what appeared to be the densest patch of <i>Zostera spp.</i> and then a smaller secondary 25cm x 25cm (625 cm ²) quadrat was placed within the main quadrat, and the individual plants counted. British National Grid reference was taken either near the centre of each site or, at the larger sites, further positions were taken. ISO9001 registered and survey/report followed these guidelines. Calibration of equipment and GPS. Duplicate samples taken in field and cross checked.

													Data entry checked by internal colleagues. Report peer reviewed internally by staff not on original project.
urn:ogc:def:crs:EPSG::27700	The status of smelt <i>Osmerus eperlanus</i> in England.	Smelt <i>Osmerus eperlanus</i> has declined in many places across Europe. This report looked in detail at the historic extent of Smelt around England as well as some information on its current localities, as of date of publication in 2003.	Natural England ; Natural England	Not planned		biota	0000-00-00				MEDIN Discovery metadata standard	2.3.2	Literature search to find publications concerning smelt in England and Wales led to numerous records of mainly qualitative and anecdotal evidence on smelt distribution. A questionnaire was created and sent to appropriate organisations and individuals to provide information on the current distribution of smelt. Additionally a previous questionnaire on fish distribution in the British Isles used by the author in 1966 a similar questionnaire carried out in conjunction with sea anglers in 1969 and also from extensive correspondence carried out by Peter Hutchinson and by the author with various fisheries organisations in the 1980s. No national standards followed. Non-standard methodology used and no peer review carried out. Spatial data is limited so no spatial checks carried out. The paper itself was internally peer reviewed within English Nature.

Table 34 Regionally sourced datasets

Region	MCZ site name/s related to	Data Title	MEDIN Title	Format	Source	Projection/Spatial Reference System	Abstract	Date Start	Date End	Date Published	Lineage – Information on data quality, sources of data, processing steps and other background information	Limitations on public access	Spatial Resolution (m)	Data restrictions	Conditions for access and use constraints	Frequency of Update	Who is responsible for maintenance of the dataset? (Contact Name, Organisation, Address, Phone No)	Who created the metadata or can be contacted about the metadata of the dataset? (Contact Name, Organisation, Address, Phone No)	Who created the dataset? (Contact Name, Organisation, Address, Phone No)
ISCZ	0	2011 Royal Society of Wildlife Trusts UK Areas of Additional Pelagic Ecological Importance	2011 Royal Society of Wildlife Trusts UK Areas of Additional Pelagic Ecological Importance	ESRI Shapefile	ipdf- The Wildlife Trusts	WGS 1984	The areas of additional pelagic ecological importance (APEI) data layer was created from several NGO datasets and two data layers provided by JNCC. These provide some information on areas of pelagic biodiversity around the UK, but are by no means the complete picture and there will, no doubt, be other areas that are equally important but are without any data. It is hoped that these data will complement the Marine Biological Association's 'benthic biodiversity hotspot' information. The purpose of this data layer is to provide additional ecological information to be used alongside existing ecological datasets submitted by JNCC and NGOs and is not to be considered a substitute for these data. As the data used for the APEI layer were at a UK resolution, regional datasets will still be vitally important and need to be used alongside this work.	0	0	2010	Each of the data layers used were pre-processed into the same resolution grid – thermal front data grid was used as a template due to it having the highest resolution data (thereby preventing this data from losing its own resolution) – and classified based on JNCC recommended methodology, (Irish Sea Conservation Zones 2011)). These classification scores were then summed to produce the final score for use when presenting the APEI data layer (, Irish Sea Conservation Zones 2011)). Table 1: APEI data table. Each data layer that makes up the final APEI layer has a column containing the classification score for that dataset. These scores are then summed to give the AEI score.	0	Restricted to SNCBs/DEFRA/MMO	Copyright	Copyright	Not Planned	Dr Lissa Batey Organisation name: The Wildlife Trusts Contact's position: Living Seas Officer Contact's role: originator Contact information: Phone: 01752 484311 Address: Delivery point: Royal Society of Wildlife Trusts, The Kiln, Waterside, Mather Road City: Newark Administrative area: Nottinghamshire Postal code: NG24 1WT Country: United Kingdom email: lbatey@wildlifetrusts.org	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Dr Lissa Batey Organisation name: The Wildlife Trusts Contact's position: Living Seas Officer Contact's role: originator Contact information: Phone: 01752 484311 Address: Delivery point: Royal Society of Wildlife Trusts, The Kiln, Waterside, Mather Road City: Newark Administrative area: Nottinghamshire Postal code: NG24 1WT Country: United Kingdom email: lbatey@wildlifetrusts.org
ISCZ	0	2011 University of Bangor, Liverpool Bay UK Survey of Bivalve Communities	2011 University of Bangor, Liverpool Bay UK Survey of Bivalve Communities	ESRI Shapefile	ipdf- Kaiser 2006	WGS 1984	The data show the result of a survey of the bivalve communities in the Liverpool Bay area of the Irish Sea. This data was collected and peer reviewed in the following paper: K (Kaiser, et al. 2006)	0	0	2006	The data show the result of a survey of the bivalve communities in the Liverpool Bay area of the Irish Sea/ This data was collected and peer reviewed in the following paper: (Kaiser, et al. 2006)	0	Restricted to SNCBs/DEFRA/MMO	Copyright	Copyright	Unknown	M. J. KAISER Organisation name: School of Ocean Science Contact's position: Professor Contact's role: principal investigator Contact information: Address: Delivery point: Bangor University City: Menai Bridge Administrative area: Anglesey Postal code: LL59 5AB Country: United Kingdom	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email: t.higginbottom@irishseaconservation.org.uk	M. J. KAISER Organisation name: School of Ocean Science Contact's position: Professor Contact's role: principal investigator Contact information: Address: Delivery point: Bangor University City: Menai Bridge Administrative area: Anglesey Postal code: LL59 5AB Country: United Kingdom
ISCZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Bait Digging	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Bait Digging	ESRI Shapefile	FISHERMAP-TO FOLLOW	0	The ISCZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	40482	2011	0	0	Unrestricted	Copyright	Copyright	Unknown	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327

IS CZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Bottom Gear	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Bottom Gear	ESRI Shapefile	FISHERMAP-TO FOLLOW	0	The IS CZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	40482	2011	0	Unrestricted	Copyright	Copyright	Unknown	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327			
IS CZ	0			ESRI Shapefile	ipdf-Defra Contract	WGS 1984		0	0	0	0		0	0	0	Elizabeth Williams Geographic Information Analyst Evidence and Analysis Team Natural England Electra Way Crewe Business Park Crewe Cheshire CW1 6GJ Tel: 0300 060 3797	0				
IS CZ	0			ESRI Shapefile	ipdf-Modified from MBS301	WGS 1984	Spawning_and_Nursery_Grounds.shp	0	0	0	The data provided by the MB5301 contract was imported, the high intensity spawning or nursery ground was then extracted and a density analysis was applied to give an aggregated layer for the ecosystem function.	0	0	0	Restricted to SNCBs/DEFRA/MMO	Copyright	Copyright	Not Planned	Individual's name: Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email: t.higginbottom@irishseaconservation.org.uk	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email: t.higginbottom@irishseaconservation.org.uk	Individual's name: Kieran Bell Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk
IS CZ	0	2011 Whale and Dolphin Conservation Society, Liverpool Bay UK, Whale and Dolphin Critical Habitats	2011 Whale and Dolphin Conservation Society, Liverpool Bay UK, Whale and Dolphin Critical Habitats	ESRI Shapefile	ipdf	GCS European 1950	The Whale and Dolphin Conservation Society conducted a survey to aid in the identification of critical cetacean habitats, to aid in the Marine Protected Area (MPA) selection process. Areas were identified by use of a scoring system which included concentration of animals, evidence of the area being used for important life processes (e.g. feeding, breeding) and the confidence of the quality and quantity of the available data. Full details can be found in the report: Clark et al. (2010) Towards Marine protected Areas for Cetaceans in Scotland, England and Wales, WD CS Scotland.	0	0	2010	The Whale and Dolphin Conservation Society conducted a survey to aid in the identification of critical cetacean habitats, to aid in the MPA selection process. Areas were identified by use of a scoring system which included concentration of animals, evidence of the area being used for important life processes (e.g. feeding, breeding) and the confidence of the quality and quantity of the available data. This dataset is an extract which covers the Liverpool bay area of the Irish Sea. Full details can be found in the report: (Clark, Doleman and Hoyt 2010)Towards Marine protected Areas for Cetaceans in Scotland, England and Wales, WD CS Scotland.	0	0	0	Restricted to SNCBs/DEFRA/MMO	Copyright	Copyright	Unknown	Party responsible for the resource: Individual's name: Sarah Dolman Organisation name: Whale and Dolphin Conservation Society Contact's position: Head of Policy for Scotland Contact information: Address: Delivery point: Moray Firth Wildlife Centre, Spey Bay City: Moray Administrative area: Postal code: IV32 7PJ Country: United Kingdom	Andrew Cameron Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: point of contact Contact information: Phone: 01925 856 230 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk	Party responsible for the resource: Individual's name: Organisation name: Whale and Dolphin Conservation Society Contact's position: Head of Policy for Scotland Contact information: Address: Delivery point: Moray Firth Wildlife Centre, Spey Bay City: Moray Administrative area: Postal code: IV32 7PJ Country: United Kingdom

ISCZ	0	2011 Department of Agriculture and Rural Development, Irish Sea, Cod closure areas with Nephrop Trawling Allowed	2011 Department of Agriculture and Rural Development, Irish Sea, Cod closure areas with Nephrop Trawling Allowed ESRI Shapefile ipdf-DARD GCS WGS 1984	Abstract: This polygon shows a derogation area within a CFP cod closure. The cod closure prohibits the use of demersal trawls, seine or similar towed net, any gill net, trammel net and tangle net or similar static net or any fishing gear comprising hooks, between 14 February and 30 April (Council Regulation EC No. 43/2009 Annex III Point 8.0). The derogation allows the use of demersal otter trawls in the same time period provided that no other fishing gear is retained on board, that the net mesh size is either 70-79mm or 80-99mm and that no individual mesh size is greater than 300mm (ABPmer 2010)	0	0	2010	Data were provided by DARD Northern Ireland to IS CZ to show existing management of fishing activities	Restricted to SNCBs/DEFRA/MMO		Other Restrictions Other Restrictions Irregular	Party responsible for the resource: Individual's name: Paddy Campbell Organisation name: Department of Agriculture and Rural Development Contact's position: Consultant Contact information: Address: Delivery point: Dundonald House, Upper Newtownards Road City: Ballymiscaw Administrative area: Belfast Postal code: BT4 3SB Country: United Kingdom	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: Voice: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	0
ISCZ	0	2011 Department of Agriculture and Rural Development, Irish Sea, Cod closure areas	2011 Department of Agriculture and Rural Development, Irish Sea, Cod closure areas ESRI Shapefile ipdf-DARD GCS WGS 1984	Abstract: This polygon shows a CFP cod closure. The cod closure prohibits the use of demersal trawls, seine or similar towed net, any gill net, trammel net and tangle net or similar static net or any fishing gear comprising hooks, between 14 February and 30 April (Council Regulation EC No. 43/2009 Annex III Point 8.0).	0	0	2010	Data were provided by DARD Northern Ireland to IS CZ to show existing management of fishing activities.	Restricted to SNCBs/DEFRA/MMO		Other Restrictions Other Restrictions Irregular	Individual's name: Paddy Campbell Organisation name: Department of Agriculture and Rural Development Contact's position: Consultant Contact information: Address: Delivery point: Dundonald House, Upper Newtownards Road City: Ballymiscaw Administrative area: Belfast Postal code: BT4 3SB Country: United Kingdom	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	0
ISCZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Diving	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Diving ESRI Shapefile FISHERMAP-TO FOLLOW	The IS CZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	40482	2011	0	Unrestricted		Convright Cobwright Unknown	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327

ISCZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Dredging	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Dredging ESRI Shapefile FISHERMAP-TO FOLLOW	0	The ISCZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179 40482 2011	0	Unrestricted	0	Copyright Copyright Unknown	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327
ISCZ	0	2011 Department of Agriculture and Rural Development, Irish Sea, Derogation for separator trawl cod	2011 Department of Agriculture and Rural Development, Irish Sea, Derogation for separator trawl cod ESRI Shapefile ipdf-DARD GCS WGS 1984	0 0 2010	Awaiting information	0 0 2010	Data was provided by DARD Northern Ireland to ISCZ to show existing management of fishing activities.	Restricted to SNCBs/DEFRA/MMO	0	Other Restrictions Other Restrictions Irregular	Party responsible for the resource: Individual's name: Paddy Campbell Organisation name: Department of Agriculture and Rural Development Contact's position: Consultant Contact information: Address: Delivery point: Dundonald House, Upper Newtownards Road City: Ballymiscaw Administrative area: Belfast Postal code: BT4 3SB Country: United Kingdom	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	0
ISCZ	0	2011 Department of Agriculture and Rural Development, Irish Sea, Herring closure areas	2011 Department of Agriculture and Rural Development, Irish Sea, Herring closure areas ESRI Shapefile ipdf-DARD GCS WGS 1984	0 0 0	Awaiting information	0 0 0	Data was provided by DARD Northern Ireland to ISCZ to show existing management of fishing activities.	Restricted to SNCBs/DEFRA/MMO	0	Other Restrictions Other Restrictions Irregular	Party responsible for the resource: Individual's name: Paddy Campbell Organisation name: Department of Agriculture and Rural Development Contact's position: Consultant Contact information: Address: Delivery point: Dundonald House, Upper Newtownards Road City: Ballymiscaw Administrative area: Belfast Postal code: BT4 3SB Country: United Kingdom	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	0

IS CZ	0	2011 Northwest Inshore Fisheries and Conservation Authority, Irish Sea, Enforced restrictions and byelaws	2011 Northwest Inshore Fisheries and Conservation Authority, Irish Sea, Enforced restrictions and byelaws ESRI Shapefile ipdf-NWIFCA WGS 1984 PDC Mercator	Abstract: This Data layer shows the byelaws and restrictions enforced by North West inshore Fisheries and Conservation Authority. Details are available from: http://www.nw-ifca.gov.uk/ContentDetails.aspx These were formally enforced by the Sea Fisheries Committee It is advisable to check with the NWIFCA before any decisions are made based upon this data as the byelaw review process is currently underway.	0	0	2010	This data layer shows the byelaws and restrictions enforced by North West inshore Fisheries and Conservation Authority. Details are available from: http://www.nw-ifca.gov.uk/ContentDetails.aspx These were formally enforced by the Sea Fisheries Committee. It is advisable to check with the NWIFCA before any decisions are made based upon this data as the byelaw review process is currently under way. This layer does not include byelaws that were managed by the Environment Agency	Restricted to SNCBs/DEFRA/MMO	Intellectual Property Rights Intellectual Property Rights Not Planned	David T Dobson Organisation name: North Western Inshore Fisheries & Conservation Authority Contact's position: Enforcement Director Contact's role: point of contact Contact information: Phone: 01946 693047 Address: Delivery point: 6 Duncan Square City: Whitehaven Administrative area: Cumbria Postal code: CA28 7LN Country: United Kingdom email : dtd@cumbriasfc.fsnet.co.uk	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom
IS CZ	0	2011 Environment Agency, Dee Estuary, Dee no go area	2011 Environment Agency, Dee Estuary, Dee no go area ESRI Shapefile ipdf- Environment Agency GCS WGS 1984	Abstract: This data layer shows the extent of an Environment Agency No Go area within the Dee Estuary, this will now have transferred to the North West Inshore Fisheries and Conservation Authority (NWIFCA)	0	0	2010	This data layer shows the extent of an Environment Agency No Go area within the Dee Estuary. This will now have transferred to the North West Inshore Fisheries and Conservation Authority (NWIFCA). The points were obtained from the Environment Agency and plotted in GIS format by IS CZ.	Restricted to SNCBs/DEFRA/MMO	Intellectual Property Rights Intellectual Property Rights Not Planned	David T Dobson Organisation name: North Western Inshore Fisheries & Conservation Authority Contact's position: Enforcement Director Contact's role: point of contact Contact information: Phone: 01946 693047 Address: Delivery point: 6 Duncan Square City: Whitehaven Administrative area: Cumbria Postal code: CA28 7LN Country: United Kingdom email : dtd@cumbriasfc.fsnet.co.uk	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom
IS CZ	0	2011 Irish Sea Conservation Zones, UK Historical Fishing Rights	2011 Irish Sea Conservation Zones, UK Historical Fishing Rights ESRI Shapefile ipdf-ECC GCS WGS 1984	Abstract: This layer shows historical fishing rights within the 6–12nm limit. These specify the nation and species granted rights to fishing within the zone.	0	0	Not published	Lineage statement: The data layer was digitised by the IS CZ from the original map showing historical fishing rights produced by the ECC in 1987 (Item 2.16). The accompanying layer file matches the colour scheme to the original. The original map is freely available.	Restricted to SNCBs/DEFRA/MMO	Copyright Copyright Irregular	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom
IS CZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Hand Picking	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Hand Picking ESRI Shapefile FISHERMAP-TO FOLLOW	The IS CZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	40482	2011	0	Unrestricted	Copyright Copyright Unknown	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327

IS CZ	0	2011 Bangor University, Irish Sea Arctica Islandica	2011 Bangor University, Irish Sea Arctica Islandica	ESRI Shapefile ipdf-Butler P WGS 1984	Abstract: Records are taken from (Butler 2009) PhD thesis, Bangor University. Ocean quahogs are a Species feature of conservation importance on the Ecological Network Guidance and are listed on the OSPAR List of Threatened and/or Declining Species and Habitats (Region II – Greater North Sea). In Wales, ocean quahogs are a species of principal importance for the purpose of conservation biodiversity under the Natural Environment and Rural Communities Act 2006 Records Digitised by IS CZ project 2011.	0	0	2009	Lineage statement: Records are taken from BUTLER, P. 2009 Establishing the Arctica Islandica archive: Development of the definitive shell-based proxy for the North Atlantic shelf seas. PhD thesis, Bangor University. Records Digitised by IS CZ project 2011. Dataset attributes are: Lat/Long- Co-ordinates of the trawl survey, Station ID Fossil Shells – Number of fossil and relict shells found at trawl location Live animals found – the number of live records found at trawl location. Live animals per km2 – Number of live animals per km2 by trawls and animals found. Depth, the depth the of the seabed at trawl location (m) Area – the geographic area of the trawl, Date – The date of the trawl, Length of trawl- The length the trawl was applied for (m)	0	Restricted to SNCBs/DEFRA/MMO	0	0	Not Planned	Metadata contact: Individual's name: Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Party responsible for the resource: Individual's name: Dr Paul Butler Organisation name: School of Ocean Science, Bangor University Contact's position: Lecturer Contact's role: principal investigator Contact information: Address: Delivery point: School of Ocean Sciences, College of Natural Sciences, Bangor University City: Menai Bridge Administrative area: Anglesey Postal code: LL59 5AB, Country: United Kingdom email : p.g.butler@bangor.ac.uk	Metadata contact: Individual's name: Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	
IS CZ	0	0	0	ESRI Shapefile ipdf-MB102 and additional GCS WGS 1984	Abstract: This dataset shows all the Feature of Conservation Importance (FOCI) data points used by the IS CZ regional stakeholder group throughout the process.	0	0	0	This dataset combines data from: MB102 contract, British Geological Survey (Peat beds) MB102 2A, Seapens (AFBI/ Marine Institute Ireland) Ocean Quahogs (Paul Butler, Bangor). Where the data have been obtained outside of national contracts separate data has been included in the handovers. Certain data has been removed from the MB102 based on low stakeholder confidence in the data. This is discussed in the SAP report separately.	0	0	0	0	0	Not Planned	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk

ISCZ	0	2011 Irish Sea Conservation Zones, Irish Sea, Iteration 1 Marine Conservation Zones	2011 Irish Sea Conservation Zones, Irish Sea, Iteration 1 Marine Conservation Zones	ESRI Shapefile	ISCZ	WGS 1984 UTM Zone 30N	<p>The Marine and Coastal Access Act (2009) created a new type of Marine Protected Area (MPA), called a Marine Conservation Zone (MCZ).</p> <p>MCZs will protect nationally important marine wildlife, habitats, geology and geomorphology. The Marine Conservation Zone Project concerns the selection of MCZs in English inshore waters and offshore waters next to England, Wales and Northern Ireland. Sites will be selected to protect not just the rare and threatened, but the range of marine wildlife.</p>	40238	40359	40359	<p>The Irish Sea recommended MCZ network was developed by the Regional Stakeholder Group with support from the ISCZ project team. Full details of the network development can be found in the ISCZ reports.</p>	<p>Data to be used internally only. For external use please contact the Regional Projects. Display on all maps using the iteration 1 MCZs with the logo of the MCZ region:</p> <p>DISCLAIMER. PLEASE READ CAREFULLY</p> <ul style="list-style-type: none"> This map is a snapshot of work in progress as of June 2010 and should not be viewed as a definitive, recommended or proposed network of MPAs. Recommendations for draft MCZs are being developed by regional MCZ project stakeholder groups (RSGs) and are subject to change as a result of work by the RSGs and scientific feedback. Following a public consultation Government will decide which MCZs will be designated. Draft and possible SACs are not confirmed and are subject to consultation and change. Sites shown are not 'no take' zones – they are MPAs and, if designated, will have variable levels of protection. Government has asked RSGs to be involved in recommending potential management measures for MCZs. <p>JNCC advises on MPAs in offshore waters from 12–200nm. Natural England advises on MPAs in inshore waters of England. Further details are available from naturalengland.org.uk and jncc.defra.gov.uk</p>	0	Copyright	Copyright	Irregular	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Kieran Bell, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG
ISCZ	0	2011 Irish Sea Conservation Zones, Irish Sea, Iteration 2 Marine Conservation Zones	2011 Irish Sea Conservation Zones, Irish Sea, Iteration 2 Marine Conservation Zones	ESRI Shapefile	ISCZ	GCS WGS 1984/WGS 1984 UTM Zone 30N	<p>The Marine and Coastal Access Act (2009) created a new type of Marine Protected Area (MPA), called a Marine Conservation Zone (MCZ).</p> <p>MCZs will protect nationally important marine wildlife, habitats, geology and geomorphology. The Marine Conservation Zone Project concerns the selection of MCZs in English inshore waters and offshore waters next to England, Wales and Northern Ireland. Sites will be selected to protect not just the rare and threatened, but the range of marine wildlife.</p>	40359	40480	40480	<p>The Irish Sea recommended MCZ network was developed by the Regional Stakeholder Group with support from the ISCZ project team. Full details of the network development can be found in the ISCZ reports.</p>	<p>Data to be used internally only. For external use please contact the Regional Projects. Display on all maps using the iteration 2 MCZs with the logo of the MCZ region:</p> <p>DISCLAIMER. PLEASE READ CAREFULLY</p> <ul style="list-style-type: none"> This map is a snapshot of work in progress as of October 2010 and should not be viewed as a definitive, recommended or proposed network of MPAs. Recommendations for draft MCZs are being developed by regional MCZ project stakeholder groups (RSGs) and are subject to change as a result of work by the RSGs and scientific feedback. Following a public consultation Government will decide which MCZs will be designated. Draft and possible SACs are not confirmed and are subject to consultation and change. Sites shown are not 'no take' zones – they are MPAs and, if designated, will have variable levels of protection. Government has asked RSGs to be involved in recommending potential management measures for MCZs. <p>JNCC advises on MPAs in offshore waters from 12–200nm. Natural England advises on MPAs in inshore waters of England. Further details are available from naturalengland.org.uk and jncc.defra.gov.uk</p>	0	Copyright	Copyright	Irregular	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Kieran Bell, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG

ISCZ	0	2011 Irish Sea Conservation Zones, Irish Sea, Iteration 3 Marine Conservation Zones	2011 Irish Sea Conservation Zones, Irish Sea, Iteration 3 Marine Conservation Zones	ESRI Shapefile	ISCZ	GCS WGS 1984	<p>The Marine and Coastal Access Act (2009) created a new type of Marine Protected Area (MPA), called a Marine Conservation Zone (MCZ).</p> <p>MCZs will protect nationally important marine wildlife, habitats, geology and geomorphology. The Marine Conservation Zone Project concerns the selection of MCZs in English inshore waters and offshore waters next to England, Wales and Northern Ireland. Sites will be selected to protect not just the rare and threatened, but the range of marine wildlife.</p>	40480	40603	40603	<p>The Irish Sea recommended MCZ network was developed by the Regional Stakeholder Group with support from the ISCZ project team. Full details of the network development can be found in the ISCZ reports.</p>	<p>Data to be used internally only. For external use please contact the Regional Projects. Display on all maps using the iteration 4 MCZs with the logo of the MCZ region:</p> <p>DISCLAIMER PLEASE READ CAREFULLY</p> <ul style="list-style-type: none"> • This map is a snapshot of work in progress as of June 2011 and should not be viewed as a definitive, recommended or proposed network of MPAs. • Recommendations for draft MCZs are being developed by regional MCZ project stakeholder groups (RSGs) and are subject to change as a result of work by the RSGs and scientific feedback. Following a public consultation Government will decide which MCZs will be designated. • Draft and possible SACs are not confirmed and are subject to consultation and change. • Sites shown are not 'no take' zones - they are MPAs and, if designated, will have variable levels of protection. Government has asked RSGs to be involved in recommending potential management measures for MCZs. <p>JNCC advises on MPAs in offshore waters from 12-200nm. Natural England advises on MPAs in inshore waters of England. Further details are available from naturalengland.org.uk and jncc.defra.gov.uk</p>	0	Copyright	Copyright	Irregular	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Kieran Bell, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG
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ISCZ	0	2011 Irish Sea Conservation Zones, Irish Sea, Draft Final Marine Conservation Zones	2011 Irish Sea Conservation Zones, Irish Sea, Draft Final Marine Conservation Zones	ESRI Shapefile	Irish Sea Conservation Zones (pdf)	WGS 1984 UTM Zone 30N	<p>The Marine and Coastal Access Act (2009) created a new type of Marine Protected Area (MPA), called a Marine Conservation Zone (MCZ).</p> <p>MCZs will protect nationally important marine wildlife, habitats, geology and geomorphology. The Marine Conservation Zone Project concerns the selection of MCZs in English inshore waters and offshore waters next to England, Wales and Northern Ireland. Sites will be selected to protect not just the rare and threatened, but the range of marine wildlife.</p>	40603	40695	40695	<p>The Irish Sea recommended MCZ network was developed by the Regional Stakeholder Group with support from the ISCZ project team. Full details of the network development can be found in the ISCZ reports.</p>	<p>Data to be used internally only. For external use please contact the Regional Projects. Display on all maps using the iteration Draft Final Recommended MCZs with the logo of the MCZ region:</p> <p>DISCLAIMER. PLEASE READ CAREFULLY</p> <ul style="list-style-type: none"> This map is a snapshot of work in progress as of June 2011 and should not be viewed as a definitive, recommended or proposed network of MPAs. Recommendations for draft MCZs are being developed by regional MCZ project stakeholder groups (RSGs) and are subject to change as a result of work by the RSGs and scientific feedback. Following a public consultation Government will decide which MCZs will be designated. Draft and possible SACs are not confirmed and are subject to consultation and change. Sites shown are not 'no take' zones – they are MPAs and, if designated, will have variable levels of protection. Government has asked RSGs to be involved in recommending potential management measures for MCZs. <p>JNCC advises on MPAs in offshore waters from 12-200nm. Natural England advises on MPAs in inshore waters of England. Further details are available from naturalengland.org.uk and jncc.defra.gov.uk</p>	0	Copyright	Copyright	Irregular	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Kieran Bell, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG
ISCZ	0	2011 Irish Sea Conservation Zones, Irish Sea, Final Marine Conservation Zones	2011 Irish Sea Conservation Zones, Irish Sea, Final Marine Conservation Zones	ESRI Shapefile	ISCZ	GCS WGS 1984	<p>The Marine and Coastal Access Act (2009) created a new type of Marine Protected Area (MPA), called a Marine Conservation Zone (MCZ).</p> <p>MCZs will protect nationally important marine wildlife, habitats, geology and geomorphology. The Marine Conservation Zone Project concerns the selection of MCZs in English inshore waters and offshore waters next to England, Wales and Northern Ireland. Sites will be selected to protect not just the rare and threatened, but the range of marine wildlife.</p>	40695	40421	40421	<p>The Irish Sea recommended MCZ network was developed by the Regional Stakeholder Group with support from the ISCZ project team. Full details of the network development can be found in the ISCZ reports.</p>	<p>Data to be used internally only. For external use please contact the Regional Projects. Display on all maps using the Final Recommended MCZs with the logo of the MCZ region:</p> <p>DISCLAIMER. PLEASE READ CAREFULLY</p> <ul style="list-style-type: none"> This map is a snapshot of work in progress as of August 2011 and should not be viewed as a definitive, recommended or proposed network of MPAs. Recommendations for draft MCZs are being developed by regional MCZ project stakeholder groups (RSGs) and are subject to change as a result of work by the RSGs and scientific feedback. Following a public consultation Government will decide which MCZs will be designated. Draft and possible SACs are not confirmed and are subject to consultation and change. Sites shown are not 'no take' zones – they are MPAs and, if designated, will have variable levels of protection. Government has asked RSGs to be involved in recommending potential management measures for MCZs. <p>JNCC advises on MPAs in offshore waters from 12-200nm. Natural England advises on MPAs in inshore waters of England. Further details are available from naturalengland.org.uk and jncc.defra.gov.uk</p>	0	Copyright	Copyright	Irregular	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Andrew Cameron, ISCZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG

ISCZ	0	2011 Irish Sea Conservation Zones, Irish Sea, Reference Areas	2011 Irish Sea Conservation Zones, Irish Sea, Reference Areas	ESRI Shapefile	ISCZ	WGS 1984 UTM Zone 30N	<p>The Marine and Coastal Access Act (2009) created a new type of Marine Protected Area (MPA), called a Marine Conservation Zone (MCZ).</p> <p>MCZs will protect nationally important marine wildlife, habitats, geology and geomorphology. The Marine Conservation Zone Project concerns the selection of MCZs in English inshore waters and offshore waters next to England, Wales and Northern Ireland. Sites will be selected to protect not just the rare and threatened, but the range of marine wildlife.</p>	40603	40786	40786	0	<p>Data to be used internally only. For external use please contact the Regional Projects. Display on all maps using the reference Areas with the logo of the MCZ region:</p> <p>DISCLAIMER. PLEASE READ CAREFULLY</p> <ul style="list-style-type: none"> This map is a snapshot of work in progress as of August 2011 and should not be viewed as a definitive, recommended or proposed network of MPAs. Recommendations for draft MCZs are being developed by regional MCZ project stakeholder groups (RSGs) and are subject to change as a result of work by the RSGs and scientific feedback. Following a public consultation Government will decide which MCZs will be designated. Draft and possible SACs are not confirmed and are subject to consultation and change. Sites shown are not 'no take' zones – they are MPAs and, if designated, will have variable levels of protection. Government has asked RSGs to be involved in recommending potential management measures for MCZs. <p>JNCC advises on MPAs in offshore waters from 12-200nm. Natural England advises on MPAs in inshore waters of England. Further details are available from naturalengland.org.uk and jncc.defra.gov.uk</p>	0	Copyright Irregular	Andrew Cameron, IS CZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Andrew Cameron, IS CZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG	Andrew Cameron, IS CZ GIS Data Officer, Spencer House, 91 Dewhurst Road, Birchwood, Warrington, WA3 7PG
ISCZ	0	2011 Fisheries and Aquatic Ecosystems Branch Department of Agriculture and Rural Development, Irish Sea, Seapen Points	2011 Fisheries and Aquatic Ecosystems Branch Department of Agriculture and Rural Development, Irish Sea, Seapen Points	ESRI Shapefile	ipdf-AFBI	WGS 1984	<p>Seapen and burrowing megafauna communities are a Habitat feature of Conservation Importance under the ecological network guidance and on the OSPAR List of Threatened and/or Declining Species and Habitats (Region II – North Sea, Region III – Celtic Sea). These records have been extracted from the ICES stock assessments for nephrops in the Irish Sea (ICES area VIIa). This work was undertaken by the Agro-Food and Biosciences Institute, Northern Ireland. Seapens were reordered when observed; the data shows an extract of these points. Data provided to ISCZ by AFBI/ Marine Institute Ireland in Northern Ireland. Data not currently published as of August 2011.</p>	0	0	not published	0	<p>Extracted from the ICES stock assessments for nephrops in the Irish Sea.</p> <p>Restricted to SNCBs/DEFRA/MMO</p>	0	Copyright Unknown	<p>Dr Matthew Service Organisation name: AFBI, DARD Contact's position: Consultant Contact's role: principal investigator</p> <p>Contact information: Phone: 028-90255502</p> <p>Address: Delivery point: Fisheries & Aquatic Ecosystems Branch, AFESD, Newforge Lane City: BELFAST Postal code: BT9 5PX Country: United Kingdom email : Matt.Service@afbini.gov.uk</p>	<p>Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor</p> <p>Contact information: Phone: 01925200813</p> <p>Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk</p>	<p>Dr Matthew Service Organisation name: AFBI, DARD Contact's position: Consultant Contact's role: principal investigator</p> <p>Contact information: Phone: 028-90255502</p> <p>Address: Delivery point: Fisheries & Aquatic Ecosystems Branch, AFESD, Newforge Lane City: BELFAST Postal code: BT9 5PX Country: United Kingdom email : Matt.Service@afbini.gov.uk</p>

ISCZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Midwater	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Midwater	ESRI Shapefile	FISHERMAP-TO FOLLOW	0	The ISCZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	40482	2011	0	Unrestricted	0	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327	
ISCZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Netting	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Netting	ESRI Shapefile	FISHERMAP-TO FOLLOW	0	The ISCZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	40482	2011	0	Unrestricted	0	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327	
ISCZ	0			ESRI Shapefile	ipdf	0		0	0	0	Originally called pelagic biodiversity. Original rasters showed seasonal biodiversity which was difficult to use at workshops and not practical for a static MCZ. Cells were averaged and then contoured. The most persistent fronts were (values above 95%) were then extracted. This work was undertaken by Tom Mullier at Finding Sanctuary. tom.mullier@southwestfoodanddrink.com	0	0	0	0	0	
ISCZ	0	2011 Gateway Storage Company Ltd, Irish Sea, Gas Storage Areas	2011 Gateway Storage Company Ltd, Irish Sea, Gas Storage Areas	ESRI Shapefile	ipdf	GCS WGS 1984	Gateway Storage Company Ltd plans to build an underground natural gas storage facility in the East Irish Sea, approximately 25 km (15 miles) offshore, south-west of Barrow-in-Furness. Storage caverns will be developed in a natural salt structure below the seabed and will enable gas to be delivered, stored and then returned to the UK's national transmission system. The offshore facility will provide a significant boost to the security of energy supply in the UK gas market and will help to meet the strategic energy policy objectives of the UK Government. When completed, the caverns will have a working capacity of 1.52 billion standard cubic meters (~562 million therms), adding nearly 30% to the current gas storage capacity in the UK market.	0	0	2010	Data originates from the Gateway Storage Company Ltd and was received by the project via email on 04/11/2010.	0	Restricted to SNCBs/DEFRA/MMO	0	Chris McKerrow Organisation name: Gateway Storage Company Ltd Contact's position: Contact information: Address: Delivery point: 49 York Place City: Edinburgh Administrative area: Postal code: EH1 3JD Country: United Kingdom	Andrew Cameron Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: point of contact Contact information: Phone: 01925 856 230 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk	Organisation name: Gateway Storage Company Ltd Contact's position: Contact information: Address: Delivery point: 49 York Place City: Edinburgh Administrative area: Postal code: EH1 3JD Country: United Kingdom

IS CZ	0	2011 Gateway Storage Company Ltd, Irish Sea, Gas Storage Caverns	2011 Gateway Storage Company Ltd, Irish Sea, Gas Storage Caverns	ESRI Shapefile	ipdf	GCS WGS 1984	Gateway Storage Company Ltd plans to build an underground natural gas storage facility in the East Irish Sea, approximately 25 km (15 miles) offshore, south-west of Barrow-in-Furness. Storage caverns will be developed in a natural salt structure below the seabed and will enable gas to be delivered, stored and then returned to the UK's national transmission system. The offshore facility will provide a significant boost to the security of energy supply in the UK gas market and will help to meet the strategic energy policy objectives of the UK Government. When completed, the caverns will have a working capacity of 1.52 billion standard cubic meters (~562 million therms), adding nearly 30% to the current gas storage capacity in the UK market.	0	0	2010	Data originates from the Gateway Storage Company Ltd and was received by the project via email on 04/11/2010.	Restricted to SNCBs/DEFRA/MMO	Copyright	Copyright	Unknown	Chris McKerrow Organisation name: Gateway Storage Company Ltd Contact's position: Contact information: Address: Delivery point: 49 York Place City: Edinburgh Administrative area: Postal code: EH1 3JD Country: United Kingdom	Andrew Cameron Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: point of contact Contact information: Phone: 01925 856 230 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk	Organisation name: Gateway Storage Company Ltd Contact's position: Contact information: Address: Delivery point: 49 York Place City: Edinburgh Administrative area: Postal code: EH1 3JD Country: United Kingdom
IS CZ	0	2011 HÖEGH LNG AS, Irish Sea Port Meridian	2011 HÖEGH LNG AS, Irish Sea Port Meridian	ESRI Shapefile	ipdf- Hoegh Energy	GCS WGS 1984	Abstract: The Port Meridian deep water port is located offshore in the Morecambe Bay – and is based on a floating degasification vessel. The degasification vessel receives liquefied natural gas (LNG) offshore, stores the LNG, degasifies the LNG on board and sends the gas to shore via a sub-sea pipeline to the National Grid. The project utilises technology offered by submerged turret loading (STL) to connect the regas vessel to the sub-sea pipeline.	0	0	2010	Lineage statement: The data layer shows the boundaries of the Port Meridian pipeline proposals. This data were provided to IS CZ for Marine Planning purposes. The accompanying proposed pipeline layer is attached..	Unknown	Copyright	Copyright	Not Planned	: Olaf Devik Organisation name: HÖEGH LNG AS Contact's position: Business Development Manager Contact's role: point of contact Contact information: Address: Delivery point: PORT MERIDIAN ENERGY LIMITED, 5 YOUNG STREET City: LONDON Postal code: W8 5EH Country: United Kingdom email : Olaf.Devik@hoegh.com	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Olaf Devik Organisation name: HÖEGH LNG AS Contact's position: Business Development Manager Contact's role: point of contact Contact information: Address: Delivery point: PORT MERIDIAN ENERGY LIMITED, 5 YOUNG STREET City: LONDON Postal code: W8 5EH Country: United Kingdom email : Olaf.Devik@hoegh.com
IS CZ	0	2011 HÖEGH LNG AS, Irish Sea Proposed Pipelines	2011 HÖEGH LNG AS, Irish Sea Proposed Pipelines	ESRI Shapefile	ipdf- Hoegh Energy	GCS WGS 1984	Abstract: The Port Meridian deep water port is located offshore in the Morecambe Bay – and is based on a floating regasification vessel. The regasification vessel receives LNG offshore, stores the LNG, regasifies the LNG on board and sends the gas to shore via a sub-sea pipeline to the National Grid. The project utilises technology offered by submerged turret loading (STL) to connect the regas vessel to the sub-sea pipeline.	0	0	2010	Lineage statement: The data layer shows the boundaries of the Port Meridian pipeline proposals, This data were provided to IS CZ for Marine Planning purposes. The accompanying proposed pipeline layer is attached	Unknown	Copyright	Copyright	Not Planned	Olaf Devik Organisation name: HÖEGH LNG AS Contact's position: Business Development Manager Contact's role: point of contact Contact information: Address: Delivery point: PORT MERIDIAN ENERGY LIMITED, 5 YOUNG STREET City: LONDON Postal code: W8 5EH Country: United Kingdom email : Olaf.Devik@hoegh.com	Party responsible for the resource: Individual's name: Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Olaf Devik Organisation name: HÖEGH LNG AS Contact's position: Business Development Manager Contact's role: point of contact Contact information: Address: Delivery point: PORT MERIDIAN ENERGY LIMITED, 5 YOUNG STREET City: LONDON Postal code: W8 5EH Country: United Kingdom email : Olaf.Devik@hoegh.com
IS CZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Potting	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Potting	ESRI Shapefile	FISHERMAP-TO FOLLOW		The IS CZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	40482	2011	0	Unrestricted	Copyright	Copyright	Unknown	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327

IS CZ	0	2011 Department of Energy and Climate Change, Rhyll UK, Oil and Gas Exploration	2011 Department of Energy and Climate Change, Rhyll UK, Oil and Gas Exploration	ESRI Shapefile	ipdf RPS consulting	WGS 1984 UTM Zone 30N	Abstract: Hydrocarbon Resources Limited (HRL) was planning to begin development in the Rhyll field in Block 113/27b in the East Irish Sea during December 2011. The development was to comprise of a single development well, which was planned to be drilled and suspended with a sub-sea template in December 2011. This well was to be tied back via a 16 inch pipeline and control umbilical to the North Morecambe Drilling and Production Platform (DPPA) in Block 110/2, approximately 14 kilometres to the south.	0	0	2010	Lineage statement: The application for permit was obtained from the consultants RPS on behalf of the developers. Permits are also available here: https://www.og.decc.gov.uk/environment/permits/ The co-ordinates for the development were then digitised by the IS CZ in June 2011.	0	co-ordinates are available from https://www.og.decc.gov.uk/environment/permits/	Intellectual Property Rights Intellectual Property Rights Not Planned	Sarah Dacre Organisation name: DECC Contact's position: Environmental Management Team Contact's role: processor Contact information: Address: Delivery point: Energy Development Unit, Atholl House City: Aberdeen Administrative area: 86-88 Guild Street Postal code: AB11 6AR	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Sam Dell Organisation name: RPS Contact's position: Consultant Contact's role: originator Contact information: Address: Delivery point: 1st Floor West, Cottons Centre City: London Administrative area: Cottons Lane, Postal code: SE1 2QG. email : dells@rpsgroup.com
IS CZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Sailing	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Sailing	ESRI Shapefile	FISHERMAP-TO FOLLOW		The IS CZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	40482	2011	0	Unrestricted	Copyright Copyright Unknown	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327	
IS CZ	0	2011 Environment Agency, Irish Sea, Consented Discharge Sites	2011 Environment Agency, Irish Sea, Consented Discharge Sites	ESRI Shapefile	ipdf-Environment Agency	WGS1984	Abstract: Data list all currently licensed discharge points within 1km buffer of the IS CZ region. Data passed to IS CZ from the Environment Agency 2010.	1900	2011	2011	0	Ordering process: Terms and fees: No charge will be applied for public bodies, individuals and commercial companies may be charged. Instructions: Data is available from the Environment Agency under freedom of information requests, public bodies may access the data free of charge.	Intellectual Property Rights Intellectual Property Rights Continual	Alex Hutchinson Organisation name: Environment Agency Contact's position: Principle Officer (Evidence) Contact's role: custodian Contact information: Address: Delivery point: PO Box 12, Knutsford Road City: Warrington Administrative area: Cheshire Postal code: WA4 1HG email : alex.hutchinson@environment-agency.gov.uk	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Alex Hutchinson Organisation name: Environment Agency Contact's position: Principle Officer (Evidence) Contact's role: custodian Contact information: Address: Delivery point: PO Box 12, Knutsford Road City: Warrington Administrative area: Cheshire Postal code: WA4 1HG email : alex.hutchinson@environment-agency.gov.uk	
IS CZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Shore Angling	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Shore Angling	ESRI Shapefile	FISHERMAP-TO FOLLOW		The IS CZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	40482	2011	0	Unrestricted	Copyright Copyright Unknown	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327	

IS CZ	0	2011 Irish Sea Conservation Zones Project, Irish Sea Aggregated Fisherman Kite Surfing	ESRI Shapefile	FISHERMAP-TO FOLLOW	0	The IS CZ liaison officers carried out 277 interviews of sea users between January 2010 and October 2010. Participants (those completing the survey) included recreational users (e.g. divers) and commercial users (e.g. fishermen). Participants gave specific information on their sea use, including giving an indication of which geographical areas of the Irish Sea they use, how often they use it and what they use it for. Commercial fishing participants were given the option to indicate their average gross earnings per year based on the previous five years. The spatial data collected (areas that the participants drew onto maps) were digitised but are only available, in most cases, to the regional projects. The interview data (responses to questions in the survey) were imported into an Access database but are only available, in most cases, to the regional projects. The regional projects and the regional stakeholder groups have used extracts from the database to inform the MCZ planning process. On behalf of all four regional projects, Finding Sanctuary is amalgamating the data into a form which can be passed onto the SNCBs and that does not breach the agreement of the participants.	40179	2011	0	Unrestricted	0	Individual Name: Andrew Cameron Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : a.cameron@irishseaconservation.org.uk Telephone: 01925200813	0	Individual Name: Shaun Lewin Position Name: Senior GIS Specialist Organisation Name: Finding Sanctuary Delivery Point: Darts Farm City: Topsham Administrative Area: Exeter Post Code: EX3 0QH Country: United Kingdom email : shaun.lewin@southwestfoodanddrink.co.uk Telephone: 01392878327
IS CZ	0	2011 Irish Sea Conservation Zones, Workington Port Area, Boundary of the Workington Pilotage	ESRI Shapefile	ipdf-Port of Workington	1998	This shapefile shows the boundary of the Workington Pilotage area as defined in the Workington Pilotage Revision Order 1988.	1998	2011	0	Restricted to SNCBs/DEFRA/MMO	0	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	0	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk
IS CZ	0	2011 Irish Sea Conservation Zones, Workington Port Area, Boundary of the Workington Pilotage	ESRI Shapefile	ipdf-Port of Workington	1998	This shapefile shows the boundary of the Workington Pilotage area as defined in the Workington Pilotage Revision Order 1988.	1998	2011	0	Restricted to SNCBs/DEFRA/MMO	0	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	0	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk
IS CZ	0	2011 Envirolink Northwest, Irish Sea, Shipping Density Variation	ESRI Shapefile	idf Anatec	2009	Abstract: Envirolink Northwest (on behalf of IS CZ) commissioned Anatec UK Ltd. to estimate the shipping density variation within Irish Sea. The shipping data used in the report have been taken from Anatec's Ship Routes database. Ship Routes is a shipping route database developed by Anatec UK to assist in identifying shipping passing in proximity to proposed offshore developments such as oil & gas sites, wind farms and dredging areas. The variation in shipping density by ship type and size has been estimated using a grid of cells covering the Irish Sea area of interest. The grid contained 2,145 cells with an average size of 5 kilometres (North/South) x 5 kilometres (East/West). Anatec's ship density model was then used to calculate the number of ships per year passing through each cell based on the Ship Routes data. This number of ships was then divided by the cell area (approximately 25 km2) to obtain the ship density per km2.	0	2009	1000	Restricted to SNCBs/DEFRA/MMO	0	Aberdeen Office Organisation name: Antec Contact's position: n/a Contact information: Address: Delivery point: 27 Huntly Street City: Aberdeen Administrative area: Scotland Postal code: AB10 1TJ, Country: United Kingdom email : aberdeen@anatec.com	0	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: 27 Huntly Street City: Aberdeen Administrative area: Scotland Postal code: AB10 1TJ, Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk
IS CZ	0	2011 Envirolink Northwest, Irish Sea, Shipping Density Variation	ESRI Shapefile	idf Anatec	2009	Abstract: Envirolink Northwest (on behalf of IS CZ) commissioned Anatec UK Ltd. to estimate the shipping density variation within Irish Sea. The shipping data used in the report have been taken from Anatec's Ship Routes database. Ship Routes is a shipping route database developed by Anatec UK to assist in identifying shipping passing in proximity to proposed offshore developments such as oil & gas sites, wind farms and dredging areas. The variation in shipping density by ship type and size has been estimated using a grid of cells covering the Irish Sea area of interest. The grid contained 2,145 cells with an average size of 5 kilometres (North/South) x 5 kilometres (East/West). Anatec's ship density model was then used to calculate the number of ships per year passing through each cell based on the Ship Routes data. This number of ships was then divided by the cell area (approximately 25 km2) to obtain the ship density per km2.	0	2009	1000	Restricted to SNCBs/DEFRA/MMO	0	Aberdeen Office Organisation name: Antec Contact's position: n/a Contact information: Address: Delivery point: 27 Huntly Street City: Aberdeen Administrative area: Scotland Postal code: AB10 1TJ, Country: United Kingdom email : aberdeen@anatec.com	0	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: 27 Huntly Street City: Aberdeen Administrative area: Scotland Postal code: AB10 1TJ, Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk

ISCZ	0	2011 Department of Energy and Climate Change, Irish Sea Oil and gas round 26 blocks	2011 Department of Energy and Climate Change, Irish Sea Oil and gas round 26 blocks	ESRI Shapefile	DECC	GCS European 1950	Energy and Climate Change Minister Charles Hendry has announced 144 potential Seaward Production Licence awards ('Traditional', 'Promote' and 'Frontier' Licences) in the 26th Seaward Round. Further details can be accessed from the link below. https://itportal.decc.gov.uk/upstream/licensing/26_rnd/index.htm	2009	0	2009	Instructions: Data Available from: https://www.og.decc.gov.uk/information/maps_offshore.htm Disclaimer This data is supplied on a best effort basis only, utilising available information as provided by the original operators. While every effort is made to ensure that this information is correct and up to date, the Department does not accept any liability for any direct, indirect or consequential loss or damage of any nature, however caused, which may be sustained as a result of reliance upon such information. If any errors are found or if you have any comments or other queries please contact: Peter Doheny	0	Data freely available	Intellectual Property Rights	Continual	Peter Doheny Organisation name: DECC Contact's position: GIS Manager Contact's role: distributor Contact information: Phone: 44 (0) 300 068 6033 Address: Delivery point: DECC City: 3 Whitehall Place Administrative area: London Postal code: SW1A 2AW email : Peter.Doheny@decc.gsi.gov.uk	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Peter Doheny Organisation name: DECC Contact's position: GIS Manager Contact's role: distributor Contact information: Phone: 44 (0) 300 068 6033 Address: Delivery point: DECC City: 3 Whitehall Place Administrative area: London Postal code: SW1A 2AW email : Peter.Doheny@decc.gsi.gov.uk	
ISCZ	0	2011 SP Energy Networks, Irish Sea Proposed Power and Telecoms Cables	2011 SP Energy Networks, Irish Sea Proposed Power and Telecoms Cables	ESRI Shapefile	Developers	WGS 1984 UTM Zone 30N	Abstract: This data layer shows the locations of the proposed cables within the ISCZ project area (and wider Irish Sea) This consists of two power interconnectors and one telecoms cable.	0	0	0	The three cables were obtained in the following manner: HV interconnector: shape files from the developer have been routinely sent to the ISCZ. This cable route is still indicative and not final – see point of contact 2. Celtic Connect was included in MB106 Cables Layers Eirgrid: co-ordinates were obtained from the developer. Further details are available from: http://www.eirgridprojects.com/projects/east-westinterconnector/overview/ http://www.virginmediabusiness.co.uk/ http://www.spenergynetworks.co.uk/	0	Restricted to SNCBs/DEFRA/MMO	Copyright	Copyright	As Needed	Party responsible for the resource: Individual's name: Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Claire Watson Organisation name: SP Energy Networks Contact's position: Environmental Planning Contact's role: point of contact Contact information: Phone: 0151 609 2568 Address: Delivery point: 3 Prenton Way City: Prenton Administrative area: Merseyside Postal code: CH43 3ET Country: United Kingdom email : Claire.Watson@spowersystems.com
ISCZ	0	2011 DONG Energy, Proposed and current wind farm cables	2011 DONG Energy, Proposed and current wind farm cables	ESRI Shapefile	various	GCS WGS 1984	Abstract: This data layer shows the proposed and current power cables for offshore wind farms. The current cables were provided by the MB106 contract. Proposed layers were provided by the developers (see point of contact 2).	0	0	0	Lineage statement: This data layer shows the proposed and current power cables for offshore wind farms. The current cables were provided by the MB106 contract. Proposed layers were provided by the developers (see point of contact 2). The developers wish the following to be made clear: It is extremely important to note at the moment that the following export cable routes are purely indicative and the co-ordinates for these cannot be confirmed at this stage: Walney 2 – this export cable is currently being installed and as-laid co-ordinates are not yet available (a consented corridor is in place) West of Duddon Sands – this export cable is still to be accurately defined depending on additional geophysical surveys (a consented corridor is in place) Walney Extension – this export cable has yet to be defined. It would be advised to confirm the current status of these developments before action is taken based on this data.	0	Restricted to SNCBs/DEFRA/MMO	Copyright	Copyright	As Needed	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Contact information: Phone: 01925200813 Address: Delivery point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk	Stuart Livesey Organisation name: DONG Energy Contact's position: Consents Manager Contact's role: point of contact Contact information: Address: Delivery point: DONG Energy Power (UK) Ltd., 33 Grosvenor Place City: Belgravia Administrative area: London Postal code: SW1X 7HY email : stliv@dongenergy.co.uk

ISCZ	0	2011 Centre for Marine and Coastal Science, North Eastern Irish Sea, Mud Video Sampling points	ESRI Shapefile	MB102	Europe, Albers Equal Area Conic MPA	This shapefile is a predictive EUNIS seabed habitat layer for the UK continental shelf. The layer has been created using sediment, biological zone and energy data. Sediment data consisted of data from both BGS DigSBS version 1 and 2, NOC Deep Sea substrate data (MB0105), Rock/hard substrate (SF0255) and WFD substrate data for coastal and transitional areas. A gap in Morecambe Bay was filled in using data from MNCR habitat maps. Biological Zone data consisted of three different layers: the biological zone layer created by ABPmer (MB0102 – Task 1C), a Deep Sea layer constructed using boundaries recommended by Kerry Howell and a layer showing estuaries and lagoons from the original UKSeaMap project. This shapefile is a modified output from the national layer in order to incorporate the best available evidence.	0	0	0	The following modifications were made to the dataset In the Eastern Irish Sea the southern Subtidal mud/sand boundary was refined in order to take into account best available evidence as demonstrated in (Lumb <i>et al.</i> 2011). The north-western corner of the project area (Irish Sea Mounds) Subtidal coarse sediments have been reclassified as Subtidal mud. This is taking into account stakeholder knowledge as the area is heavily trawled by nephrops trawling (evidence from VMS and Fishermap).	0	0	0	0	0		
ISCZ	0	2011 Centre for Marine and Coastal Science, North Eastern Irish Sea, Mud Video Sampling points	ESRI Shapefile	MB102	Europe, Albers Equal Area Conic MPA	This shapefile is a predictive EUNIS seabed habitat layer for the UK continental shelf. The layer has been created using sediment, biological zone and energy data. Sediment data consisted of data from both BGS DigSBS version 1 and 2, NOC Deep Sea substrate data (MB0105), Rock/hard substrate (SF0255) and WFD substrate data for coastal and transitional areas. A gap in Morecambe Bay was filled in using data from MNCR habitat maps. Biological Zone data consisted of three different layers: the biological zone layer created by ABPmer (MB0102 – Task 1C), a Deep Sea layer constructed using boundaries recommended by Kerry Howell and a layer showing estuaries and lagoons from the original UKSeaMap project. This shapefile is a modified output from the national layer in order to incorporate the best available evidence.	0	0	0	The following modifications were made to the dataset In the Eastern Irish Sea the southern Subtidal mud/sand boundary was refined in order to take into account best available evidence as demonstrated in (Lumb <i>et al.</i> 2011). The north-western corner of the project area (Irish Sea Mounds) Subtidal coarse sediments have been reclassified as Subtidal mud. This is taking into account stakeholder knowledge as the area is heavily trawled by nephrops trawling (evidence from VMS and Fishermap).	0	0	0	0	0		
ISCZ	0	2011 Natural England Irish Sea Video Sampled trawls	ESRI Shapefile	Journal of the Marine Biological Association	WGS 1984 UTM Zone 30N	This point data are locations of video sampling undertaken in: Hughes DJ & Atkinson RJS. 1997. A towed video survey of megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association, 77, 635-653. This data was digitised and compiled by Natural England (North West) in order to produce the paper LUMB, C. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group.	0	0	2011	This point data are locations of video sampling undertaken in: Hughes DJ & Atkinson RJS. 1997. A towed video survey of megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association, 77, 635-653. This data was digitised and compiled by Natural England (North West) in order to produce the paper LUMB, C. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group.	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Unknown	Individual Name: D J Hughes Position Name: Researcher Organisation Name: Centre For Marine and Coastal Science Delivery Point: Scottish Marine Institute City: Oban, Administrative Area: Argyll Post Code: PA37 1QA Telephone: 01631 559000	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Individual Name: D J Hughes Position Name: Researcher Organisation Name: Centre For Marine and Coastal Science Delivery Point: Scottish Marine Institute City: Oban, Administrative Area: Argyll Post Code: PA37 1QA Telephone: 01631 559000
ISCZ	0	2011 Natural England Irish Sea Video Sampled trawls	ESRI Shapefile	Journal of the Marine Biological Association	WGS 1984 UTM Zone 30N	This line data is the locations of video sampling undertaken in: Hughes DJ & Atkinson RJS. 1997. A towed video survey of megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association, 77, 635-653. This data was digitised and compiled by Natural England (North West) in order to produce the paper LUMB, C. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group.	0	0	2011	This line data are locations of video sampling undertaken in: Hughes DJ & Atkinson RJS. 1997. A towed video survey of megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association, 77, 635-653. This data was digitised and compiled by Natural England (North West) in order to produce the paper LUMB, C. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group.	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Unknown	Individual Name: D J Hughes Position Name: Researcher Organisation Name: Centre For Marine and Coastal Science Delivery Point: Scottish Marine Institute City: Oban, Administrative Area: Argyll Post Code: PA37 1QA Telephone: 01631 559000	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Individual Name: D J Hughes Position Name: Researcher Organisation Name: Centre For Marine and Coastal Science Delivery Point: Scottish Marine Institute City: Oban, Administrative Area: Argyll Post Code: PA37 1QA Telephone: 01631 559000
ISCZ	0	2011 DONG Energy, Irish Sea, Offshore Wind farm benthic Survey Reports	ESRI Shapefile	DONG Energy	WGS 1984 UTM Zone 30N	The point data has been obtained from WALNEY & ORMONDE 2009 Offshore Windfarm Benthic Survey Reports November 2009 & October 2010. Work undertaken for DONG Energy/Vattenfall by CMACS and was provided to the North West Natural England office by DONG Energy and was utilised by the Natural England staff for the document LUMB, C. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group. This paper compiled evidence from various sources on mud-related features in the Irish Sea.	0	0	2010	The point data has been obtained from WALNEY & ORMONDE 2009 Offshore Windfarm Benthic Survey Reports November 2009 & October 2010. Work undertaken for DONG Energy/Vattenfall by CMACS and was provided to the North West Natural England office by DONG Energy and was utilised by the Natural England staff for the document LUMB, C. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group. This paper compiled evidence from various sources on mud-related features in the Irish Sea.	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Unknown	Stuart Livesey Position Name: Consents Manager Organisation Name: DONG Energy Delivery Point: DONG Energy Power (UK) Ltd., 33 Grosvenor Place City: Belgravia Administrative Area: London Post Code: SW1X 7HY email : stliv@dongenergy.co.uk	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Stuart Livesey Position Name: Consents Manager Organisation Name: DONG Energy Delivery Point: DONG Energy Power (UK) 33 Grosvenor Place City: Belgravia Administrative Area: London Post Code: SW1X 7HY email : stliv@dongenergy.co.uk

IS CZ	0	2011 Centre for Marine and Coastal Science, North Eastern Irish Sea, Mud Video Sampling points	2011 Centre for Marine and Coastal Science, North Eastern Irish Sea. Mud Video Sampling points ESRI Shapefile Journal of the Marine Biological Association WGS 1984 UTM Zone 30N	This data layer shows the distributions of seapens and burrowing megafauna in circalittoral fine mud biotope. This biotope is listed as a Habitat Feature of Conservation Importance under the Ecological Network Guidance (under the grouping Seapens and Burrowing Megafauna Communities). EC Habitats Directive: Seapen faunal communities can be found in some very sheltered examples of Annex 1 type large shallow inlets and bays, and in Scandinavian fjords. UK Biodiversity Action Plan: Mud in deep water (Habitat Action Plan). This data was used by the advice of Natural England in the paper LUMB, C. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group. This paper provided evidence on the distribution of mud-related features in the North East Irish Sea. Due to the evidence review and assessment by Lumb C (2011) this layer should be used in the place of the data provided through the Defra lead contract MB102.	0	0	0	The layer was generated from research undertaken in HUGHES, D.J. & ATKINSON, R.J.S. 1997. Towed video survey of the megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association. 77 635-653. This paper investigated distribution and condition of mud-related features in the Irish Sea by video surveys of the seabed. The results of this investigation were digitised by Natural England (North West) and utilised in LUMB, C. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group. This paper assessed all available published and unpublished data relating to mud features within the eastern Irish Sea.	0	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Unknown	D J Hughes Position Name: Researcher Organisation Name: Centre For Marine and Coastal Science Delivery Point: Scottish Marine Institute City: Oban, Administrative Area: Argyll Post Code: PA37 1QA Telephone: 01631 559000	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	D J Hughes Position Name: Researcher Organisation Name: Centre For Marine and Coastal Science Delivery Point: Scottish Marine Institute City: Oban, Administrative Area: Argyll Post Code: PA37 1QA Telephone: 01631 559000
IS CZ	0	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Low Water Points	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Low Water Points ESRI Shapefile NWIFCA GCS WGS 1984	The group of shapefiles are designed to accompany the excel spreadsheet. This spreadsheet covers the shoreline surveys undertaken every year by Dr Jane Lancaster for Cumbria Sea Fisheries Committee (now North West Inshore Fisheries and Conservation Authority.) these surveys have been undertaken on an annual basis since 1993. The annual reports are available from the NW IFCA. The accompanying data was supplied to the IS CZ by Dr Jane Lancaster.	1993	2008	0	Received from Jane Lancaster	0	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Annually	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0
IS CZ	0	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Shore Data	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Shore Data Excel Spreadsheet NWIFCA GCS WGS 1984	The group of shapefiles are designed to accompany the excel spreadsheet. This spreadsheet covers the shoreline surveys undertaken every year by Dr Jane Lancaster for Cumbria Sea Fisheries Committee (now North West Inshore Fisheries and Conservation Authority). These surveys have been undertaken on an annual basis since 1993. The annual reports are available from the NW IFCA, the accompanying data were supplied to the IS CZ by Dr Jane Lancaster.	1993	2008	0	Received from Jane Lancaster	0	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Annually	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0

IS CZ	0	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Topshore Points	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Topshore Points	ESRI Shapefile	NWIFCA	GCS WGS 1984	The group of shapefiles are designed to accompany the excel spreadsheet. This spreadsheet covers the shoreline surveys undertaken every year by Dr Jane Lancaster for Cumbria Sea Fisheries Committee (now North West Inshore Fisheries and Conservation Authority). These surveys have been undertaken on an annual basis since 1993. The annual reports are available from the NW IFCA. The accompanying data were supplied to the IS CZ by Dr Jane Lancaster.	1993	2008	0	Received from Jane Lancaster	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Annually	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0
IS CZ	0	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Transect Co-ordinates	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Transect Co-ordinates	Excel Spreadsheet	NWIFCA	GCS WGS 1984	The group of shapefiles are designed to accompany the excel spreadsheet. This spreadsheet covers the shoreline surveys undertaken every year by Dr Jane Lancaster for Cumbria Sea Fisheries Committee (now North West Inshore Fisheries and Conservation Authority). These surveys have been undertaken on an annual basis since 1993. The annual reports are available from the NW IFCA. The accompanying data were supplied to the IS CZ by Dr Jane Lancaster.	1993	2008	0	Received from Jane Lancaster	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Annually	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0
IS CZ	0	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Transect Points	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Transect Points	ESRI Shapefile	NWIFCA	GCS WGS 1984	The group of shapefiles are designed to accompany the excel spreadsheet. This spreadsheet covers the shoreline surveys undertaken every year by Dr Jane Lancaster for Cumbria Sea Fisheries Committee (now North West Inshore Fisheries and Conservation Authority). These surveys have been undertaken on an annual basis since 1993. The annual reports are available from the NW IFCA. The accompanying data were supplied to the IS CZ by Dr Jane Lancaster.	1993	2008	0	Received from Jane Lancaster	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Annually	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0

ISCZ	0	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Transect	2011 North West Inshore Fisheries and Conservation Authority, Cumbrian Shore, Transect	ESRI Shapefile	NWIFCA	GCS WGS 1984	The group of shapefiles are designed to accompany the excel spreadsheet. This spreadsheet covers the shoreline surveys undertaken every year by Dr Jane Lancaster for Cumbria Sea Fisheries Committee (now North West Inshore Fisheries and Conservation Authority). These surveys have been undertaken on an annual basis since 1993. The annual reports are available from the NW IFCA The accompanying data were supplied to the ISCZ by Dr Jane Lancaster.	1993	2008	0	Received from Jane Lancaster	Restricted to SNCBs/DEFRA/MMO	Restricted	Restricted	Annually	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0	
ISCZ	0	2011 Environment Agency Irish Sea Location of European Eel	2011 Environment Agency Irish Sea Location of European Eel	ESRI Shapefile	Environment Agency	British National Grid	Data provided by the Environment Agency to ISCZ for identification of MCZs. European Eel are listed as a Species feature of conservation importance (Highly Mobile) and are also Listed as Critically Endangered on the IUCN Red List a UKBAP Priority Species and a species of principal importance for the purpose of conserving of biodiversity under the Natural Environment and Rural Communities Act 2006 JNCC and Natural England are licensed to use this data until 17/11/2011	0	0	0	Data provided by the Environment Agency to ISCZ for identification of MCZs. European eel are listed as a Species Feature of Conservation importance (Highly Mobile) and are also Listed as Critically Endangered on the IUCN Red List, a UKBAP Priority Species and a species of principal importance for the purpose of conserving biodiversity under the Natural Environment and Rural Communities Act 2006 The data originate from Environment Agency Fish sampling points in rivers and estuaries in the North West region. Where rivers are missing data may be held by the Centre for Environment, Fisheries & Aquaculture Science (Cefas). JNCC and Natural England are licensed to use this data until 17/11/2011. Data Attributes are : FID Shape Org: organisation who completed survey REGION: EA Region NAME: Name of water body Site_Paren: description of the site area Site_NGR_1: BNG reference of area Surveyor: Surveyed- Current/former survey site Salinity- salinity environment of the area Event_Date survey date Season season of survey Year of survey Method Code for sampling method Sample_Cod- Sample Code Latin_Name - The Latin name of the species Common_Nam the common (non-latin name of species) Fish_Count- The number of fish samples Easting Northing	0	Restricted to SNCBs/DEFRA/MMO until 17/11/2011 after which it is not licensed for use	Restricted	Restricted	Unknown	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0

IS CZ	0	2011 Environment Agency Irish Sea Location of Smelt	2011 Environment Agency Irish Sea Location of Smelt	ESRI Shapefile Environment Agency British National Grid	Data provided by the Environment Agency to IS CZ for identification of highly mobile FOCI areas. Smelt are listed as a Species Feature of Conservation of Importance under the ecological network guidance and are a UKBAP Priority Species of principal importance for the purpose of conserving of biodiversity under the Natural Environment and Rural Communities Act 2006 The data are available on request from the Environment Agency charges may apply for commercial users. JNCC and Natural England are licensed to use this data until 17/11/2011.	0	0	0	Data provided by the Environment Agency to IS CZ for identification of highly mobile FOCI areas. Smelt are listed as a Species Feature of Conservation of Importance under the ecological network guidance and are a UKBAP Priority Species of principal importance for the purpose of conserving of biodiversity under the Natural Environment and Rural Communities Act 2006 The data are available on request from the Environment Agency. Charges may apply for commercial users. The data originates from Environment Agency Fish sampling points in rivers and estuaries in the North West region. Where rivers are missing data may be held by the Centre for Environment, Fisheries & Aquaculture Science (Cefas). JNCC and Natural England are licensed to use this data until 17/11/2011. Data Attributes are : FID Shape Org organisation who completed survey REGION EA Region NAME Name of water body Site_Paren-description of the site area Site_NGR_1 BNG reference of area Surveyor Surveyed-Current/former survey site Salinity- salinity environment of the area Event_Date survey date Season of survey Year of survey Method Code for sampling method Sample_Cod- Sample Code Latin_Name- The Latin name of the species Common_Nam the common (non-latin name of species) Fish_Count- The number of fish samples Easting Northing	0	Restricted to SNCBs/DEFRA/MMO until 17/11/2011 after which it is not licensed for use	Restricted Restricted Unknown	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0
IS CZ	0	2011 Environment Agency, Irish Sea, Estuarine fish species	2011 Environment Agency, Irish Sea, Estuarine fish species	ESRI Shapefile Environment Agency British National Grid	List of estuarine fish found in Estuaries around the Irish Sea.	1981	2009	0	Data were provided by the Environment Agency.	0	Restricted to SNCBs/DEFRA/MMO	Restricted Restricted Unknown	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0
IS CZ	0	2011 British Geological Survey Irish Sea Horse Mussel Beds	2011 British Geological Survey Irish Sea Horse Mussel Beds	ESRI Shapefile SEA6 WGS 1984 UTM Zone 30N	Records obtained from SEA6 report ASSESSMENT OF THE STATUS OF HORSE MUSSEL (MODIOLUS MODIOLUS) BEDS IN THE IRISH SEA OFF NW ANGLESEY E. Ivor S. Rees March 2005 (Revised August 2005) Dataset obtained from BGS SEA data portal in 2011. The data shows the locations of various Horse Mussel (Modiolus modiolus) beds These beds are a Habitat feature of Conservation Importance under the Ecological Network Guidance, an Annex 1 habitat under the Habitats Directive, a Biodiversity Action Plan Habitat and feature on the OSPAR lists. Data is publically available.	1999	0	2005	The Department of Trade and Industry (now DECC) began a sequence of sectoral SEAs of the implications of further licensing of the UK Continental Shelf (UKCS) for oil and gas exploration and production in 1999. The SEA Process sub-divided the UKCS into eight areas (the Irish Sea being SEA6). Beginning in 2008, integrated Offshore Energy SEAs have been undertaken that cover the whole UKCS. This data and report are now being processed and made publicly available by the British Geological Survey. These records were obtained from: SEA6 report ASSESSMENT OF THE STATUS OF HORSE MUSSEL (MODIOLUS MODIOLUS) BEDS IN THE IRISH SEA OFF NW ANGLESEY E. Ivor S. Rees March 2005 (Revised August 2005) Dataset obtained from BGS SEA data portal by IS CZ in 2011.	0	Unrestricted	Copyright Copyright Unknown	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	Tom Higginbottom Position Name: GIS Officer Organisation Name: Irish Sea Conservation Zones Delivery Point: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative Area: Warrington Post Code: WA3 7PG Country: United Kingdom email : t.higginbottom@irishseaconservation.org.uk Telephone: 01925200813	0

ISCZ	0	2011 Royal Society of Wildlife Trusts UK Areas of Additional Pelagic Ecological Importance	2011 Royal Society of Wildlife Trusts UK Areas of Additional Pelagic Ecological Importance ESRI Shapefile ipdf- The Wildlife Trusts WGS 1984	The areas of additional pelagic ecological importance (APEI) data layer was created from several NGO datasets and two data layers provided by JNCC. These provide some information on areas of pelagic biodiversity around the UK, but are by no means the complete picture and there will, no doubt, be other areas that are equally important but are without any data. It is hoped that these data will complement the Marine Biological Association's 'benthic biodiversity hotspot' information. The purpose of this data layer is to provide additional ecological information to be used alongside existing ecological datasets submitted by JNCC and NGOs and is not to be considered a substitute for these data. As the data used for the APEI layer were at a UK resolution, regional datasets will still be vitally important and need to be used alongside this work.	0	0	2010	Each of the data layers used were pre-processed into the same resolution grid – thermal front data grid was used as a template due to it having the highest resolution data (thereby preventing this data from losing its own resolution) – and classified based on JNCC recommended methodology (see table in Appendix 1). These classification scores were then summed to produce the final score for use when presenting the APEI data layer Table 1: APEI data table. Each data layer that makes up the final APEI layer has a column containing the classification score for that dataset. These scores are then summed to give the AEI score.	0	Restricted to SNCBs/DEFRA/MMO	Copyright Copyright Not Planned	Dr Lissa Batey Organisation name: The Wildlife Trusts Contact's position: Living Seas Officer Contact's role: originator Contact information: Phone: 01752 484311 Address: Delivery point: Royal Society of Wildlife Trusts, The Kiln, Waterside, Mather Road City: Newark Administrative area: Nottinghamshire Postal code: NG24 1WT Country: United Kingdom email: lbatey@wildlifetrusts.org	Tom Higginbottom Organisation name: Irish Sea Conservation Zones Contact's position: GIS Officer Contact's role: processor Address: C/O Envirolink 91 Dewhurst Road City: Birchwood Administrative area: Warrington Postal code: WA3 7PG Country: United Kingdom email: t.higginbottom@irishseaconservation.org.uk	Dr Lissa Batey Organisation name: The Wildlife Trusts Contact's position: Living Seas Officer Contact's role: originator Contact information: Phone: 01752 484311 Address: Delivery point: Royal Society of Wildlife Trusts, The Kiln, Waterside, Mather Road City: Newark Administrative area: Nottinghamshire Postal code: NG24 1WT Country: United Kingdom email: lbatey@wildlifetrusts.org
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Region	MCZ site name/s related to	Data Title	MEDIN Title	Format	Source	Projection/ Spatial Reference System	Abstract	Date Start	Date End	Date Published	Lineage – Information on Data Quality, sources of data, processing steps and other background information	Spatial Resolution (m)	Limitations on public access	Data restrictions	Conditions for access and use constraints	Frequency of Update	Who is responsible for maintenance of the dataset? (Contact Name, Organisation, Address, Phone No)	Who created the metadata or can be contacted about the metadata of the dataset? (Contact Name, Organisation, Address, Phone No)	Who created the dataset? (Contact Name, Organisation, Address, Phone No)
Net Gain	0	Sea anglers	0	ESRI Shapefile	Fishermap	WGS 1984/UTM31N		0	0	0		N/A		0	0	0		0	0
Net Gain	0	Recreation and leisure sector	0	ESRI Shapefile	ipdf- check this is GIS file labelled water sports??	WGS 1984/UTM31N		0	0	0		N/A		0	0	0		0	0
Net Gain	0	Mobile Gears	0	ESRI Shapefile	Fishermap	WGS 1984/UTM31N		0	0	0		N/A		0	0	0		0	0
Net Gain	0	Divers	0	ESRI Shapefile	ipdf	WGS 1984/UTM31N		0	0	0		N/A		0	0	0		0	0
Net Gain	0	Charter Boats	0	ESRI Shapefile	Fishermap	WGS 1984/UTM31N		0	0	0		N/A		0	0	0		0	0
Net Gain	0	<i>Sabellaria spinulosa</i> sp Cefas	0	ESRI Shapefile	ipdf-Regional Project ipdf, data from Cefas	WGS 1984/UTM31N	Records of <i>Sabellaria spinulosa</i> occurrences from grabs (0.1m2) and beam trawls (2m x length of tow) from between 1995 and 2005, originally provided in WGS 1984. Abundance = number of individuals recorded	1995	2005	0	Records of <i>Sabellaria spinulosa</i> occurrences from grabs (0.1m2) and beam trawls (2m x length of tow) from between 1995 and 2005, originally provided in WGS 1984.	N/A	The information was provided by and should be acknowledged to Cefas. For further information contact Jacqueline Eggleton [jacqueline.eggleton@cefas.co.uk].	0	0	0	0	0	The information was provided by and should be acknowledged to Cefas. For further information contact Jacqueline Eggleton [jacqueline.eggleton@cefas.co.uk].Address: Cefas, Pakefield Road, Lowestoft, Suffolk, NR33 0HT. Tel: 01502 562244

Net Gain	0	Limited Shellfish Permits	0	ESRI Shapefile	ipdf-Fishermap	WGS 1984/UTM31N	MFA shellfisheries data from reported shellfish landings at ports in England and Wales.	0	0	2010	This data is the collation of two datasets – MAFF (1995) The Coastal Fisheries of England and Wales, Part III: A review of their status 1992–1994 and The UK Sea Fisheries Statistics. The data are subject to misreporting errors; Cefas shellfish distribution maps provided in OSGB36, therefore, may be slightly offset in positional accuracy as a result of the datum transformation process.	N/A	0	0	Licence	Not Planned	0	0	Nicola Dewey, ABPmer, GIS Analyst, Suite B, Waterside House, Town Quay Southampton, Hampshire, SO14 2AQ Tel: 023 80 711 867
Net Gain	0	Static Gears	0	ESRI Shapefile	Fishermap	WGS 1984/UTM31N	0	0	0	0		N/A	0	0	0	0	0	0	0
Net Gain	0	Wildlife enthusiasts	0	ESRI Shapefile	ipdf	WGS 1984/UTM31N	0	0	0	0		N/A	0	0	0	0	0	0	0
Net Gain	0	Final site recommendations	0	ESRI Shapefile	ipdf-Net Gain	WGS 1984/UTM31N	0	0	0	0		N/A	0	0	0	0	0	0	0
Net Gain	0	Peat and clay exposures polygon	0	ESRI Shapefile	JNCC	WGS 1984/UTM31N	This layer shows the distribution of polygon records of peat and clay exposures with piddocks, a Biodiversity Action Plan Habitat. This layer forms one of a set of data layers created for the Defra MB0102 contract. This work will support the delivery of a network of Marine Protected Areas as required to meet existing international and national obligations and commitments, including Marine Conservation Zones (MCZs), a new measure to be delivered as part of the Marine and Coastal Access Bill, and equivalent measures under Scottish legislation. The availability of these data layers will also be of importance in underpinning Marine Planning (e.g. licensing) in our marine area.	35234	39878	40303	Field Explanations. Original Habitat Name: Habitat Name: Survey ID: Date: Location Name: SampleID: Event name: Latitude: Longitude: Determiner: Classification: Designation: Status: Co-ordinate Precision:	100	0	Licence	Not Planned	Beth Stoker, JNCC, Monkstone House, City Road, Peterborough, Cambridgeshire, PE1 1JY. Tel: 01733 562626	Becky Seeley, MaRLIN, The Laboratory, Citadel Hill, Plymouth, Devon, PL1 2PB. Tel: 01752 633291	Beth Stoker, JNCC, Monkstone House, City road, Peterborough, Cambridgeshire, PE1 1JY. Tel: 01733 562626	
Net Gain	0	Coastal Salt marshes	0	ESRI Shapefile	ipdf	WGS 1984/UTM31N	SPECIES: Common English name for the species.	0	0	0		N/A	0	0	0	0	0	0	0

Net Gain	0	Functional Biological Communities Humber REC	N/A	ESRI Shapefile	MALSF	WGS 1984	Layer file displaying data from shapefile FBC.shp. Layer shows the four functional biological communities defined using multivariate statistics and expert judgement on samples from benthic grab stations and epibenthic trawl stations in the Humber REC study area. Layer displays categories in attribute column labelled 'Biotype'. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Benthic Faunal Groups in the Humber REC	N/A	ESRI Shapefile	MALSF	WGS 1984	Distribution of benthic assemblages identified through multivariate analysis of grab sample data in the Humber Regional Environmental Characterisation. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Environmental_Core Locations	N/A	ESRI Shapefile	MALSF	WGS 1984	Point shapefile showing the location of the environmental cores taken during the survey. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Dredging_scars	N/A	ESRI Shapefile	MALSF	WGS 1984	Areas where the effects dredging activity are visible on the seabed. These areas were mapped from the MBES data This is a conservative map in that many of the dredged areas have likely been re-sedimented. Also, we have not mapped individual dredge scars, which are likely exploratory lines, as they are often difficult to distinguish between natural features. Only areas of ~intensive dredging are mapped.	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Demersal Trawling in the Humber REC area	N/A	ESRI Shapefile	MALSF	WGS 1984	Layer file displaying data from shapefile Demersal Trawling.shp. Layer shows demersal trawling extent of mobile fishing in the REC area (data produced by Cefas under ALSF Project 08/73). Layer displays all polygons in shapefile (not categorised by attribute data). Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Defence_of_Britain_Selected_Sites	N/A	ESRI Shapefile	MALSF	WGS 1984	Point shapefile of selected sites from the Defence of Britain project relating to air and sea defences around the East Coast of England. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	d50_grid_clip	N/A	Raster dataset	MALSF	WGS 1984	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF	

Net Gain	0	REC Humber Modelled Biotypes: RECHUMB	N/A	ESRI Shapefile	MALSF	WGS 1984	This model of final predicted functional biological communities has been created for the purpose of the Humber REC. Various fields are used to display information in the final report including: total sum per biotype, prediction method and final predicted biotype. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	Layer shows prediction of final predicted functional biological communities developed in the RECHUMB model with full coverage across the Humber REC. The numbers refer to the four different biological communities such that when more than one number is provided in the map legend, this refers to there being an overlay between two or more communities, e.g. 123 is an overlay of community groups 1, 2 and 3. Key 1. Barnacles, ascidians and tubicolous polychaetes 2. Interstitial polychaetes with burrowing bivalves and amphipods 3. <i>Sabellaria spinulosa</i> reef 4. Sparse fauna Layer displays attribute column 'F_Force3' all values	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Fishing Effort Unidentified in the Humber REC area	N/A	ESRI Shapefile	MALSF	WGS 1984	Undefined fishing effort: extent of mobile fishing in the REC area (Data produced by Cefas under ALSF Project 08/73). Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	grav_pc_clip1	N/A	Raster dataset	MALSF	WGS 1984	0	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Holocene Channels	N/A	ESRI Shapefile	MALSF	WGS 1984	A polyline shapefile representing the locations of Holocene channels identified in the sub-bottom dataset obtained by the Humber REC survey data available at http://www.marinealsf.org.uk/data/	0	0	2011	The sub-bottom data was analysed in Kingdom and identified channels digitised. This data was exported as a csv file representing individual shotpoints within the survey, and imported into ArcGIS. The point shapefile was converted into a polyline shapefile for ease of use. Additional attributes were generated by intersecting these features with other datasets such as the NSPP landscape character zones and the new Humber REC landscape character zones, to quantify the effect of the new data on the previous datasets A length attribute was also generated using Hawth's Tools	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	HoloceneLandscapes	N/A	ESRI Shapefile	MALSF	WGS 1984	A polyline shapefile representing the locations of Holocene landscapes identified in the sub-bottom dataset obtained by the Humber REC survey. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	The sub-bottom data was analysed in Kingdom and identified Holocene landscapes digitised. This data was exported as a csv file representing individual shotpoints within the survey relating to these features, and imported into ArcGIS. The point shapefile was converted into a polyline shapefile for ease of use. Additional attributes were generated by intersecting these features with other datasets such as the NSPP landscape character zones and the new Humber REC landscape character zones, to quantify the effect of the new data on the previous datasets A length attribute was also generated using Hawth's Tools	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	HREC_EUNIS_HighestLevel	N/A	ESRI Shapefile	MALSF	WGS 1984	Thematic map showing EUNIS level 4 groups, with individual grab stations assigned to highest level achieved (Level 4, 5 or 6), providing detail of biological zone (including rock and energy), and dividing sublittoral sediment into sediment type and areas above (circalittoral) or below (deep circalittoral) the wave base. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	EUNIS Level 3	N/A	ESRI Shapefile	MALSF	WGS 1984	Thematic map showing EUNIS level 3 groups assigned to station grab samples, providing detail of biological zone (including rock and energy), and dividing sediment into littoral and sublittoral with sediment type. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF

Net Gain	0	EUNIS Level 4 with energy	N/A	ESRI Shapefile	MALSF	WGS 1984	Thematic map showing EUNIS classification at level 4 modelled specifically for the Humber REC project. The map divides rock into biological zones, kinetic wave and kinetic tidal energy and includes rock and thin sediment categories, which have been created for the Humber REC (and not previously categorised in EUNIS). Sediment is divided into biological zones and sediment types. Note whilst sediment does not require energy at level 4, this has been provided also, although it does not form any new classes. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	HREC_EUNIS_L5_MESL	N/A	ESRI Shapefile	MALSF	WGS 1984	Thematic map showing EUNIS classification at level 5 modelled specifically for the Humber REC project. The map divides rock into biological zones and kinetic wave and kinetic tidal energy and includes rock and thin sediment categories, which have been created for the Humber REC (and not previously categorised in EUNIS). Level 5 is provided to show biotopes, which are derived from the Humber REC habitat suitability model RECHUMB. Many of these classes are new as they do not already exist in the EUNIS 2004 classification. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Grab Stations Humber REC	N/A	ESRI Shapefile	MALSF	WGS 1984	Location of Hammon grab stations in the Humber REC with ID numbers. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Epibenthic faunal groups in the Humber REC	N/A	ESRI Shapefile	MALSF	WGS 1984	Distribution of epibenthic assemblages identified through multivariate analysis of trawl sample data in the Humber REC. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Humber_REC_sandwave 5	N/A	ESRI Shapefile	MALSF	WGS 1984	Derived statistics on mapped sand waves include: azimuth: average azimuth (strike) of mapped sand wave crest in degrees. Sinuosity: Ratio: length of crest vs. straight line between end points (see appendix). Height – facing direction (orientation) given in degrees. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Abundance of various prey species	N/A	ESRI Shapefile	MALSF	WGS 1984	Distribution and abundance of various prey species in 2 m beam trawls (5 mm mesh size) taken in the Humber REC area. Includes: <i>Hyperoplus lanceolatus</i> , <i>Crangon</i> spp, <i>Pandalus</i> spp, crabs. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF

Net Gain	0	Receiver of Wreck	N/A	ESRI Shapefile	MALSF	WGS 1984	Point shapefile denoting the locations (where recorded) of Droit Numbers for artefacts listed by the Receiver of Wreck.	0	0	2011	An excel spreadsheet was obtained listing all artefacts handed into the Receiver of Wreck (prior to 2008), along with their allocated Droit number, Lat Long position and description. This was converted into a point shapefile. UTM31 co-ordinates were added using Hawth's Tools, and a depth attribute field was calculated from the BGS bathymetry raster	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	rec_boundary_polygon_wgs84-dense	N/A	ESRI Shapefile	MALSF	WGS 1984	Boundary of the Humber REC area. Data available at http://www.marinealsf.org.uk/data/	0	0	2011		N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Prehistoric Features	N/A	ESRI Shapefile	MALSF	WGS 1984	Polygon feature dataset incorporating a 50m buffer around the Holocene Channels line shapefile added to fluvial features and lakes identified from the North Sea Palaeolandscapes Project. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	A 50m buffer was generated around the polyline feature dataset representing the location of Holocene Channels identified in the sub-bottom dataset. This was added to fluvial features and lakes previously identified from the NSPP. This dataset was created in order to generate a distance from the features raster dataset for the Management Layers.	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Fisheries Average Tonnage by Group	N/A	ESRI Shapefile	MALSF	WGS 1984	Average annual catch weight (t) of major fisheries groups landed originating from ICES statistical rectangles encompassing the Humber REC study area and landed at various UK ports. ICES (International Council for the Exploration of the Sea) statistical rectangles are an attempt to standardise the division of sea areas for statistical analysis, with each rectangle being approximately 30min latitude and 1 degree longitude in area. Data are the average of 2003 & 2008 landings data; MMO landings data, 2008. (The MMO is the Marine Management Organisation, established to make a significant contribution to sustainable development in the marine area. More info: http://www.marinemangement.org.uk/about/index.htm).	0	0	2011		N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Ports_HumberREC_UTM31N	N/A	ESRI Shapefile	MALSF	WGS 1984	Ports on the east and north-east coast relevant to the Humber REC area. Data available at http://www.marinealsf.org.uk/data/	0	0	2011		N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Pelagic Trawling in the Humber REC area	N/A	ESRI Shapefile	MALSF	WGS 1984	Pelagic Trawling: extent of mobile fishing in the REC area (data produced by Cefas under ALSF Project 08/73). Data available at http://www.marinealsf.org.uk/data/	0	0	2011		N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	NMR polygon dataset (a centroid point shapefile). To allow better querying of the dataset, additional attribute fields and information was added to each entry where possible, such as To, From, Cargo, Ship Type and Lives lost. This information was taken from the NMR description field, and from sources such as the Shipwreck Index of the British Isles. Data available at http://www.marinealsf.org.uk/data/	N/A	ESRI Shapefile	MALSF	WGS 1984	NMR polygon dataset (converted into a centroid point shapefile). To allow better querying of the dataset, additional attribute fields and information was added to each entry where possible, such as To, From, Cargo, Ship Type and Lives lost. This information was taken from the NMR description field, and from sources such as the Shipwreck Index of the British Isles. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	The National Monuments Record was consulted for the Humber REC study area. The original polygon shapefile documenting recorded wrecks at named locations was converted into a centroid point shapefile for ease of visualisation. Additional fields and information was added to the attribute table such as To, From, Cargo, Ship Type and Lives lost. This information was taken both from the NMR data itself, and from sources such as the Shipwreck Index of the British Isles (Larn and Larn).	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF

Net Gain	0	Seabed Habitats of the Humber REC	N/A	ESRI Shapefile	MALSF	WGS 1984	Chart showing the distribution of seabed habitats observed from underwater video and still images taken from across the Humber REC study area. Also shown are the stations where <i>Sabellaria spinulosa</i> and <i>Ophiothrix fragilis</i> aggregations were observed. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Seabed_Zones	N/A	ESRI Shapefile	MALSF	WGS 1984	Lines drawn to separate the Western, Central, and Eastern zones which are used primarily by the biologists to organise interpretations. The lines are not presented as a definitive interpretation, but are based loosely on the distribution of seabed sediments: Western (predominantly sandy Gravel), Central (predominantly Mixed sediments), and Eastern (predominantly Sand). Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Sediment less than 1m	N/A	ESRI Shapefile	MALSF	WGS 1984	Where Holocene seabed sediments are either exceedingly thin (<1m) or absent. The Holocene sediments may be subcropped by either Quaternary or Mesozoic units in the REC area. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Seine Netting in the Humber REC area	N/A	ESRI Shapefile	MALSF	WGS 1984	Seine Netting: extent of mobile fishing in the REC area (Data produced by Cefas under ALSF Project 08/73). Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Sorting_grid	N/A	ESRI Shapefile	MALSF	WGS 1984	0	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Sorting_points	N/A	ESRI Shapefile	MALSF	WGS 1984	Raw data points comprising Humber REC sampling data, and BGS legacy data that were used to make the Sorting grid. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Maximum wave and tidal bed shear stress	N/A	ESRI Shapefile	MALSF	WGS 1984	Bed shear stress, as supplied by UKSeaMap2010, has been converted to a score of 1 to 6 for use in the RECHUMB model. Scores have been assigned as: Score 1=0-15N/m ² stress, 2 = 15-30, 3 = 30-4%, 4 = 45-60, 5 = 60-75, 6 = 75-90% Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF
Net Gain	0	Tidal Contours for EUNIS	N/A	ESRI Shapefile	MALSF	WGS 1984	Energy at the seabed has been derived from modelled tidal velocities for the maximum spring tide supplied by Proudman Oceanographic Laboratory (POL). The tidal data has been categorised according to the EUNIS classification of low <0.5m/s, moderate 0.5 - 1.5m/s and high >1.5m/s. Data available at http://www.marinealsf.org.uk/data/	0	0	2011	0	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released, NE holds a licence for the data.	Licence	Not Planned	MALSF	MALSF	MALSF

Net Gain	0	HREC_EUNISL4	N/A	ESRI Shapefile	MALSF	WGS 1984/UTM31N	Thematic map showing EUNIS classification at level 4 modelled specifically for the Humber REC project. The map divides rock into biological zones, kinetic wave and kinetic tidal energy and includes rock and thin sediment categories, which have been created for the Humber REC (and not previously categorised in EUNIS). Sediment is divided into biological zones and sediment types. Note whilst sediment does not require energy at level 4, this has been provided also, although it does not form any new classes.	2011	2011	2011	Dataset was projected to UTM Zone 31N.	N/A	Licence. Freely downloadable after registration on the MALSF website (http://www.marinealsf.org.uk/data/). Already with SNCBs.	Data cannot be released to MEDIN, data already with SNCBs.	Licence	Not Planned	MALSF	Angela de Burgh, Marine Ecological Surveys Limited, 3 Palace Yard Mews, Bath, Somerset, BA1 2NH, email: angie@seasurvey.co.uk , Tel.: +44(0)1225442211	Bryony Pearce, Marine Ecological Surveys Limited, 3 Palace Yard Mews, Bath, Somerset, BA1 2NH, email: bryony@seasurvey.co.uk , Tel.: +44(0)1225442211
Net Gain	NG 14	Farne Deep subtidal mud broad-scale habitat	2011 Sandy Ritchie, Subtidal mud	ESRI Shapefile	Sandy Ritchie	WGS 1984/UTM31N	Limit of soft ground tow for Farne Deep representing the location of subtidal mud. Co-ordinates received from Sandy Ritchie via Net Gain Fisheries Liaison Officer, Ian Rowe (25 January 2011).	2011	2011	2011	Co-ordinates received from Sandy Ritchie were digitised to create a polygon and to show the extent of the subtidal mud present, and projected in UTM31N.	N/A	Permission to pass to JNCC and NE only, a £50 fee to be provided to Sandy Ritchie if the data is to be used or displayed.	Data can be shared with NE and JNCC only, £50 fee to be paid to use the data.	Restricted	Unknown	Sandy Ritchie, Anglo-Scottish Fishermen's Association and MPA Coalition, sandyritchie541@btinternet.com	Sandy Ritchie, Anglo-Scottish Fishermen's Association and MPA Coalition, sandyritchie541@btinternet.com	Sandy Ritchie, Anglo-Scottish Fishermen's Association and MPA Coalition, sandyritchie541@btinternet.com

Net Gain	NG 2 and RA 1	Blue Mussel beds survey	0	Tif	IFCA	WGS 1984/UTM31N	<p>Cromer Blue Mussel beds; interpolated survey data (2011) provided to Net Gain by Jessica Woo. Information provided to Net Gain from IFCA, detailing the survey: it is illustrative of the variation in the proportion of mussel (as a percentage volume in a 0.1m³ Day Grab sample) across the area surveyed, with low-to high illustrated as blue-red. It has been re-registered in WGS-84 lat/long from the original projection of the grid which was actually bng. SURVEY INFORMATION: the survey was conducted using a Day grab. This will not penetrate hard seabed, or even far into a dense mussel scalp, so may underestimate the volume of mussels (tends to scrape the ones off the surface). The % volume is more realistically a % coverage (density) due to the low penetration of the grab and the fact that it will not retain a lot of fine sediment so that we are able to measure it. Other metrics we recorded were a minimum and maximum length of the mussel (in mm), and a total weight of the mussel in each grab (measured in g). The Sed1 and Sed2 columns are the two predominant size classes in the sample, on a phi scale system – ignoring colloids and clay; if there is no visible grain size we class it as silt as it is an on-the-fly categorisation for us, not a proper lab analysis. 1 is silt, 8 is boulder. The approximate tonnage of mussel across the area surveyed was estimated to be 22,000 tonnes. IFCA believe that the bed extends further inshore; they ran out of survey time and had not found the south or eastern extents. It might well sit within the 15m contour, but that is a guess. The areas with highest density of mussel were within the 3nm; the area to the south and east is a little further from the boundary so might be better buffered. Some videos taken with our ROV are available. They show that on the ground, the mussel provides a dense, homogenous coverage and is well attached to the substrate. They have created a layer of finer sediment (pseudofaeces) around them, and appear to be attached directly to the harder substrate underneath. This may be chalk, although neither the grab nor video data was suitable to make any distinction (this is where acoustic data would be perhaps more useful). BACKGROUND TO THE SURVEY: this was not a scheduled survey, but IFCA arranged it in response to reports from fishermen that mussel had been found in that area. IFCA's goal was to establish the nature (particularly size range) and extent of the bed and most importantly the location. Due to limited time to conduct the work, no acoustic work has been done, but the survey started in the area provided by the fishermen and worked out until mussel has not been found any more – and, in the case of the south-eastern extent, until IFCA ran out of time. IFCA then used the video to get an idea of the in-situ nature of the seabed at various points throughout the bed, as well as the patchiness/heterogeneity and any potential features (the goal was to check that the mussel did not correspond to any potential chalk reef, in particular). As such, the survey is tailored to finding mussels rather than a full seabed characterisation. The landings data from the fishery outside the 3nm seems to reflect what IFCA expected to find in that area (and 2/3 of the bed, including most of the better mussel, was inside).</p>	2011	2011	2011	<p>TECHNICAL INFORMATION: Coverage file was provided in TIF format and registered using provided information: Max X = 1.4960, Min X= 1.4424, Max Y= 52.9445, Min Y = 52.9129 (at Net Gain).</p>	N/A	Data should be acknowledged to Eastern Inshore Fisheries and Conservation Authority, 2011.	Data can be shared with NE, JNCC and Defra	Copyright	Not Planned	Eastern Inshore Fisheries Conservation Authority	<p>Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email:jessicawoo@eastern-ifca.gov.uk, 01553775321</p>	Eastern Inshore Fisheries Conservation Authority
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Net Gain	0	Blue Mussel beds survey	2011 Eastern Inshore Fisheries Conservation Authority, Cromer Blue Mussel Bed Distribution: point data	ESRI Shapefile	IFCA	WGS 1984/UTM31N	<p>Cromer Blue Mussel beds; interpolated survey data (2011) provided to Net Gain by Jessica Woo. Information provided to Net Gain from IFCA, detailing the survey: it is illustrative of the variation in the proportion of mussel (as a percentage volume in a 0.1m³ Day Grab sample) across the area surveyed, with low-to high illustrated as blue-red. It has been re-registered in WGS-84 lat/long from the original projection of the grid which was actually bng. SURVEY INFORMATION: the survey was conducted using a Day grab. This will not penetrate hard seabed, or even far into a dense mussel scalp, so may underestimate the volume of mussels (tends to scrape the ones off the surface). The % volume is more realistically a % coverage (density) due to the low penetration of the grab and the fact that it will not retain a lot of fine sediment so that we are able to measure it. Other metrics we recorded were a minimum and maximum length of the mussel (in mm), and a total weight of the mussel in each grab (measured in g). The Sed1 and Sed2 columns are the two predominant size classes in the sample, on a phi scale system – ignoring colloids and clay; if there is no visible grain size we class it as silt as it is an on-the-fly categorisation for us, not a proper lab analysis. 1 is silt, 8 is boulder. The approximate tonnage of mussel across the area surveyed was estimated to be 22,000 tonnes. IFCA believe that the bed extends further inshore; they ran out of survey time and had not found the south or eastern extents. It might well sit within the 15m contour, but that is a guess. The areas with highest density of mussel were within the 3nm; the area to the south and east is a little further from the boundary so might be better buffered. Some videos taken with our ROV are available. They show that on the ground, the mussel provides a dense, homogenous coverage and is well attached to the substrate. They have created a layer of finer sediment (pseudofaeces) around them, and appear to be attached directly to the harder substrate underneath. This may be chalk, although neither the grab nor video data was suitable to make any distinction (this is where acoustic data would be perhaps more useful). BACKGROUND TO THE SURVEY: this was not a scheduled survey, but IFCA arranged it in response to reports from fishermen that mussel had been found in that area. IFCA's goal was to establish the nature (particularly size range) and extent of the bed and most importantly the location. Due to limited time to conduct the work, no acoustic work has been done, but the survey started in the area provided by the fishermen and worked out until mussel has not been found any more – and in the case of the south-eastern extent, until IFCA ran out of time. IFCA then used the video to get an idea of the in-situ nature of the seabed at various points throughout the bed, as well as the patchiness/heterogeneity and any potential features (the goal was to check that the mussel did not correspond to any potential chalk reef, in particular). As such, the survey is tailored to finding mussels rather than a full seabed characterisation. The landings data from the fishery outside the 3nm seems to reflect what IFCA expected to find in that area (and 2/3 of the bed, including most of the better mussel, was inside).</p>	2011	2011	2011	Original file from IFCA with survey locations indicated by points, data was used to help locate position of raster data supplied as a tiff.	N/A	Data should be acknowledged to Eastern Inshore Fisheries and Conservation Authority, 2011.	Data can be shared with NE, JNCC and Defra	Copyright	Not Planned	Eastern Inshore Fisheries Conservation Authority	<p>Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email:jessicawoo@eastern-ifca.gov.uk, 01553775321</p>	Eastern Inshore Fisheries Conservation Authority
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Net Gain	0	Habitats FOCI	2010 The North Sea Wildlife Trusts, Seasearch data for Habitat Features of Conservation Importance (FOCI)	ESRI Shapefile	The North Sea Wildlife Trusts (Seasearch)	WGS 1984/UTM31N	Seasearch NE and Seasearch East Anglia 2010 survey data of habitats.	0	0	2010	This shapefile has been created from an excel spreadsheet provided by the North Sea Wildlife Trust on behalf of Seasearch. Some records with co-ordinates pointing to areas that were not in agreement with the locations of the record in the attribute table were after a discussion with The North Sea Wildlife Trust deleted.	N/A	0	The original dataset was created by The North Sea Wildlife Trust on behalf of Seasearch. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Restricted	Unknown	Seasearch	Kirsten Smith, Yorkshire Wildlife Trust, 1 St George's Place, York, YO24 1GN. Tel.: 01904 615585, email: kirsten.smith@ywt.org.uk	Kirsten Smith, Yorkshire Wildlife Trust, 1 St George's Place, York, YO24 1GN. Tel.: 01904 615585, email: kirsten.smith@ywt.org.uk
Net Gain	0	Shipwrecks	2010 Seasearch, Locations of Shipwrecks in North Norfolk SSSI	ESRI Shapefile	Seasearch	WGS 1984/UTM31N	Location of two shipwrecks in shallow water within the North Norfolk Coast SSSI has been provided by Seasearch East Anglia. The names of the shipwrecks (engine centres) are The Vera and The Rosalie.	2010	2010	2011	Co-ordinates for the points were provided by Mr Spray in a word document. Those were plotted and specified buffers created which were verified by Mr Spray.	N/A	0		Data can be shared with NE, JNCC and Defra	Copyright	Not Planned	Seasearch	Rob Spray, 1 Town Houses, Yoxford Road, Sibton, Saxmundham, IP17 2LX, email: rob@1townhouses.co.uk, Tel.: 01728 660598	Katerina Wojtaszekova, Net Gain, The Deep Business Centre, Tower Street, Hull, HU1 4BG. Tel: 01482 382007
Net Gain	0	Habitats of conservation importance- inshore definitions	2010 Seasearch, Locations of habitats of conservation importance in the North Norfolk area	ESRI Shapefile	Seasearch	WGS 1984/UTM31N	Habitats of conservation importance inshore definitions and location of two shipwrecks in shallow water have been provided by Seasearch East Anglia. The features are within the North Norfolk Coast SSSI; the defined habitats are Chalk reefs and exposures, Subtidal clay and Blue/Edible mussel bed. names of the shipwrecks (engine centres) are The Vera and The Rosalie.	2010	2010	2011	Habitats of conservation importance inshore definitions and location of two shipwrecks in shallow water have been provided by Seasearch East Anglia. The features are within the North Norfolk Coast SSSI; the defined habitats are Chalk reefs and exposures, Subtidal clay and Blue/Edible mussel bed. names of the shipwrecks (engine centres) are The Vera and The Rosalie.	N/A	0		Data cannot be released to MEDIN before the dataset is collated with the datasets of the WTs and Natural England.	Copyright	Not Planned	Seasearch	Rob Spray, 1 Town Houses, Yoxford Road, Sibton, Saxmundham, IP17 2LX, email: rob@1townhouses.co.uk, Tel.: 01728 660598	Katerina Wojtaszekova, Net Gain, The Deep Business Centre, Tower Street, Hull, HU1 4BG. Tel: 01482 382007
Net Gain	0	Habitats of conservation importance- modelled	0	ESRI Shapefile	ABPmer	WGS 1984/UTM31N	This layer shows the area in which subtidal sand and gravels habitat, sheltered muddy gravels and subtidal chalk habitats are likely to occur.	0	2010	40303	0		100	0	MB0102	Licence	Not Planned	Beth Stoker, JNCC, Monkstone House, City Road, Peterborough, PE1 1JY, Tel: 01733 562626	Becky Seeley, MaRLIN, The Laboratory, Citadel Hill, Plymouth, Devon, PL1 2PB. Tel: 01752 633291	0
Net Gain	0	Coastal peat deposits	2009 English Heritage, Coastal peat deposits within the Net Gain project area	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	Coastal peat deposits records held by English Heritage.	2009	2009	2011	The original dataset was clipped to a large rectangle covering the Net Gain project area of the North Sea and then projected to UTM Zone 31N.	N/A	0	none	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	English Heritage	Helen Chappell, English Heritage, Brooklands, 24 Brooklands Avenue, Cambridge, CB2 8BU, email: Helen.Chappell@english-heritage.org.uk, Tel.: 01223 582759	English Heritage, Brooklands, 24 Brooklands Avenue, Cambridge, CB2 8BU, email: Helen.Chappell@english-heritage.org.uk, Tel.: 01223 582759
Net Gain	0	Clay exposures	2011 William Lawrence, Clay exposures in NG 14	ESRI Shapefile	William (Billy) Lawrence	WGS 1984/UTM31N	Area representing clay exposures recorded in survey in March 2011 received from Billy Lawrence.	40618	40618	40618	GPS co-ordinates provided were digitised and projected into UTM Zone 31N to provide a shapefile showing the indicative location of clay exposures in a polygon.	Co-ordinates	0	Acknowledge the work of Mr William Lawrence. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Restricted	Not Planned	Mr William Lawrence, willalawrence@yahoo.com	Mr William Lawrence, willalawrence@yahoo.com	Mr William Lawrence, willalawrence@yahoo.com

Net Gain	0	Minke whale critical habitats	2003-2009 North East Cetacean Project, Location of Minke Whale Critical Habitat	ESRI Shapefile	North East Cetacean Project	WGS 1984/UTM31N	Minke whale critical habitat and areas of interest. See Clark, Dolman and Hoyt (2010) Towards Marine Protected Areas for Cetaceans in Scotland, England and Wales: A scientific review identifying critical habitat with key recommendations. WDCS Report for detailed methodology and criteria.	2003 2009 2010	Dataset was acquired in its current form from the North East Cetacean Project and clipped to the Net Gain project boundary. Data was then displayed using the field 'AOI' and separated into the categories: 1 = critical habitat or area of interest 2 = tested but did not meet the criteria.	N/A	Acknowledge North East Cetacean Project and Whale and Dolphin Conservation Society	Data can be released into public domain	Licence	Not Planned	0	Martin Kitching, North East Cetacean Project, Tel: 01670 827465, email: martin@newt ltd.co.uk	Josephine Clark, email: josephineclark78@gmail.com
Net Gain	0	White-beaked dolphin sightings	2003-2009 North East Cetacean Project, Location of White-beaked dolphin sightings	ESRI Shapefile	North East Cetacean Project	WGS 1984/UTM31N	Data shows white-beaked dolphin sightings from the period 2003 to 2009 received from North East Cetacean Project.	2003 2009 2010	Point data received via Excel spreadsheet. Co-ordinates were plotted and clipped to the Net Gain project boundary.	N/A	Acknowledge North East Cetacean Project	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Martin Kitching, North East Cetacean Project, Tel: 01670 827465, email: martin@newt ltd.co.uk	Martin Kitching, North East Cetacean Project, Tel: 01670 827465, email: martin@newt ltd.co.uk
Net Gain	0	White-beaked dolphin critical habitat	2003-2009 North East Cetacean Project, Location of white-beaked dolphin critical habitat	ESRI Shapefile	North East Cetacean Project	WGS 1984/UTM31N	White-beaked dolphin critical habitat and areas of interest around the UK. See Clark, Dolman and Hoyt (2010) Towards Marine Protected Areas for Cetaceans in Scotland, England and Wales: A scientific review identifying critical habitat with key recommendations. WDCS Report for detailed methodology and criteria.	2003 2009 2010	Dataset was acquired in its current form from the North East Cetacean Project and clipped to the Net Gain project boundary. Data was then displayed using the field 'AOI' and separated into the categories: 1 = critical habitat or area of interest 2 = tested but did not meet the criteria.	N/A	Acknowledge North East Cetacean Project and Whale and Dolphin Conservation Society	Data can be released into public domain	Licence	Not Planned		Martin Kitching, North East Cetacean Project, Tel: 01670 827465, email: martin@newt ltd.co.uk	Josephine Clark, email: josephineclark78@gmail.com
Net Gain	0	BGS Bedrock Geology	0	ESRI Shapefile	BGS	WGS 1984/UTM31N	Bedrock (formerly known as 'solid' rock) indicating the main mass of rocks, as mapped in the Digital Geological Map of Great Britain (DiGMapGB). These data were mostly compiled from maps at the 1: 250,000 scale.	0 0 2010	Shapefile was clipped to the Net Gain project boundary and reprojected to UTM31N.	N/A	Not to be passed beyond the Net Gain project	Data cannot be released	Licence	Not Planned	Danielle Cowell, British Geological Society, email: dawel1@bgs.ac.uk	Danielle Cowell, British Geological Society, email: dawel1@bgs.ac.uk	Danielle Cowell, British Geological Society, email: dawel1@bgs.ac.uk
Net Gain	0	GCR features (point)	0	ESRI Shapefile	ABPmer	WGS 1984/UTM31N	Part of the geomorphological features of importance. Centroid extracted from SSSIs. One SSSI site extracted from the master SSSI file in order to display GCR sites in the Net Gain area.	0 0 2010	Centroid extracted from SSSI file downloaded from the Natural England website 19/01/10. A centroid of the polygon created, joined to the table of the polygon to retrieve the attribute information and exported as a new layer	N/A	0	MB0102	Licence	Not Planned	Claire Brown, ABPmer, Suite B, Southampton, Hampshire, SO14 2AQ, Tel: 02380711864, email: cbrown@abpmer.co.uk	Claire Brown, ABPmer, Suite B, Southampton, Hampshire, SO14 2AQ, Tel: 02380711864, email: cbrown@abpmer.co.uk	Claire Brown, ABPmer, Suite B, Southampton, Hampshire, SO14 2AQ, Tel: 02380711864, email: cbrown@abpmer.co.uk
Net Gain	0	GCR Sites	0	ESRI Shapefile	ABPmer	WGS 1984/UTM31N	Geological/seabed GCR features from MB102 Task 2A.	0 0 2010	Data has been extracted from MB102 Task 2A layer GlacialProcessFeatures.shp. Layer contains shapes for: Outer Silver Pit Swallow Hole	N/A	0	MB0102	Licence	Not Planned	Claire Brown, ABPmer, Suite B, Southampton, Hampshire, SO14 2AQ, Tel: 02380711864, email: cbrown@abpmer.co.uk	Claire Brown, ABPmer, Suite B, Southampton, Hampshire, SO14 2AQ, Tel: 02380711864, email: cbrown@abpmer.co.uk	Claire Brown, ABPmer, Suite B, Southampton, Hampshire, SO14 2AQ, Tel: 02380711864, email: cbrown@abpmer.co.uk

Net Gain	0	Geological and Geomorphological Features of Importance	0	ESRI Shapefile	ABPmer	WGS 1984/UTM31N	Draft areas of geological and geomorphological features of importance identified by Natural England for possible Marine Conservation Zone designation under the Marine and Coastal Access Act 2009.	0	0	2010	Data was received December 2010. The layer was clipped to the Net Gain project boundary and reprojected to UTM31N. 2 columns were added to the layer: GCR_k1-- contains the names for the sites from the ENG. GCR_sugges – contains the names suggested by Siobhan Browne.	N/A	0	MB0102	Copyright	Not Planned	Siobhan Browne, Natural England, 25 Queen Street, Leeds, LS1 2TW, Tel: 0300 060 4838, email: siobhan.browne@naturalengland.org.uk	Siobhan Browne, Natural England, 25 Queen Street, Leeds, LS1 2TW, Tel: 0300 060 4838, email: siobhan.browne@naturalengland.org.uk	Siobhan Browne, Natural England, 25 Queen Street, Leeds, LS1 2TW, Tel: 0300 060 4838, email: siobhan.browne@naturalengland.org.uk
Net Gain	0	Survey areas (BGS_multibeam)	2009 British Geological Survey, Seabed mapping and surveys (BGS_multibeam)	ESRI Shapefile	BGS	WGS 1984/UTM30N	This shapefile outlines the current multibeam data holdings of the British Geological Survey. The multibeam has been collected from a variety of vessels and contractors for the purpose of seabed mapping. Surveys may not meet all requirements of IHO order 1. The data is available for download in various formats from the Maritime and Coastguard Agency (MCA) website.	0	0	2009	The extents of multibeam was derived from the actual swath data extents using ESRI ArcMap. GeoTiff or Arc Grids were created in Fledermaus using the processed XYZ survey data (when possible) for this purpose. The attributes were populated when possible. However, HI_number and HI_name are MCA/UKHO specific and so not populated. BGS_ID and Location information added. Contract – the contract under which this survey was undertaken. Contractor – the survey contractor which undertook the work. Standard - the overall standard to which the survey data was gathered. In general the data was collected without any standard in mind and this attribute has been left blank. Start_Date. End_date. FY_Comissi – financial year of commission. Status – indicates survey completion. Although all surveys have been completed, not all have been fully processed. Area_kmSq (WGS_84_UTM30N). A Comments field has also been added for more survey-specific information.	1:50000	Available to download in various formats from the Maritime and Coastguard Agency (MCA) website. The dataset should be acknowledged to BGS.	Data can be released into public domain	Copyright	Not Planned	Cooper, Rhys Mark, BGS Edinburgh, Murchison House, West Mains Road, Edinburgh, EH9 3LA, email : enquiries@bgs.ac.uk, Tel: (0131) 6671000	Cooper, Rhys Mark, BGS Edinburgh, Murchison House, West Mains Road, Edinburgh, EH9 3LA, email : enquiries@bgs.ac.uk, Tel: (0131) 6671000	Cooper, Rhys Mark, BGS Edinburgh, Murchison House, West Mains Road, Edinburgh, EH9 3LA, email : enquiries@bgs.ac.uk, Tel: (0131) 6671000
Net Gain	0	Cefas: Areas Surveyed with Multibeam	2009 Centre for Environment, Fisheries and Aquaculture Science: Areas surveyed with multibeam to map the seabed habitat	ESRI Shapefile	Cefas	WGS 1984	Cefas collects multibeam bathymetry and backscatter data as part of seabed and habitat mapping surveys. These surveys are predominantly conducted as part of environmental assessments of human activities or in the context of the identification and assessment of areas of conservation interest. Cefas has the capability to collect multibeam data from its Research Vessel Cefas Endeavour, but data may also be collected by sub-contractors. Polygon areas represent approximate extents of survey data gathered. In some areas only data corridors were collected, rather than data for the entire polygon. Data are generally acquired for seabed characterisation and habitat mapping purposes. Surveys may not meet all requirements of the IHO Order 1 Standard. Surveys are generally reduced to Mean Sea Level (MSL).	2009	2009	2009	The polygons represent the approximate extents of areas where survey data was obtained by Cefas or a sub-contractor which undertook the survey. Polygons were created from the bathymetric products created by Cefas or the survey sub-contractor and digitised by Cefas. Cefas staff populated an attribute table (developed and provided by MCA) with the following attributes: HI_Name - Hydrographic Instruction name. Combination of the name of the survey area and the unique Cefas Cruise Code. Often, the survey area name relates to a dredged material disposal site, a licensed aggregate extraction site, a wind farm development area or a major nearby natural feature. HI_Number – a unique HI reference number which is used internally by the MCA and UK Hydrographic Office (UKHO). HI numbers are not used by Cefas and left blank. Contract – the Cefas contract code under which this work was undertaken. Contractor – the organisation which undertook the work. Standard – the overall standard to which the survey data was gathered. Start_Date – the day which the contractor started offshore operations on the polygon area. End_Date – the day which the contractor completed offshore operations on the polygon area. FY_Comissi – the financial year (1 April to 31 March) in which the survey work was first commissioned. Status – flag to indicate whether the survey has been completed (Surveyed) or is planned for the future (Planned) Area_KmSq – the total area of the polygon (in WGS UTM -3 deg).	n/a	Available to download in various formats from the Maritime and Coastguard Agency (MCA) website. The dataset should be acknowledged to Cefas.	Data can be released into public domain	Copyright	As Needed	Koen Vanstaen, Senior Seabed mapper, Cefas, Cefas Lowestoft Laboratory, Pakefield Road, Lowestoft, Suffolk, NR33 0HT, email : koen.vanstaen@cefas.co.uk, Tel: +44 (0)1502524489	Koen Vanstaen, Senior Seabed mapper, Cefas, Cefas Lowestoft Laboratory, Pakefield Road, Lowestoft, Suffolk, NR33 0HT, email : koen.vanstaen@cefas.co.uk, Tel: +44 (0)1502524489	Koen Vanstaen, Senior Seabed mapper, Cefas, Cefas Lowestoft Laboratory, Pakefield Road, Lowestoft, Suffolk, NR33 0HT, email : koen.vanstaen@cefas.co.uk, Tel: +44 (0)1502524489

Net Gain	RA 2a and 2b	Lagoons (starlet Sea Anemone), (Cley-Next-The-Sea)	2011 Net Gain and Norfolk Wildlife Trust, Arnold Marsh and Seahorse Lagoons Recommended Reference Area 2a and 2b	ESRI Shapefile	Norfolk Wildlife Trust	WGS 1984/UTM31N	This shapefile provides the boundaries of the lagoons protected in RA 2a and 2b, known as Arnolds Marsh and Seahorse Lagoon.	2011	2011	2011	The shapes of the lagoons were digitised from an image of an ordnance survey obtained via the internet with the assistance of co-ordinates provided by Net Gain Liaison Officer Tammy Stamford. All data were in British National Grid. The lagoons were the projected into UTM Zone 31N for use by Net Gain.	N/A	Acknowledgment of Net Gain	Data can be released into public domain	Copyright	Not Planned	No maintenance required, one off provision of data.	Hester Clack, Natural England, Dragonfly House, 2 Gilders Way, Norwich, Norfolk, NR3 1UB, email : Hester.Clack@naturalengland.org.uk, Tel: 0300 060 0046	Net Gain
Net Gain	RA 2a 2b	Pathway running between lagoons at Cley-next-the-sea	2011 Net Gain and Norfolk Wildlife Trust, Pathway through Arnold's Marsh and Seahorse Lagoons	ESRI Shapefile	Norfolk Wildlife Trust	WGS 1984/UTM31N	This shapefile provides the location of the pathway through the lagoons protected in RA 2a and 2b, known as Arnolds Marsh and Seahorse Lagoon.	2011	2011	2011	The location of the pathway was digitised from an image of an ordnance survey obtained via the internet with the assistance of co-ordinates provided by Net Gain Liaison Officer, Tammy Stamford. All data were in British National Grid. The pathway was projected into UTM Zone 31N for use by Net Gain.	N/A	Acknowledgment of Net Gain	Data can be released into public domain	Copyright	Not Planned	No maintenance required, one off provision of data.	Hester Clack, Natural England, Dragonfly House, 2 Gilders Way, Norwich, Norfolk, NR3 1UB, email : Hester.Clack@naturalengland.org.uk, Tel: 0300 060 0046	Net Gain
Net Gain	RA sites	Reference Area site boundaries	2011 Net Gain Recommended Reference Area Boundaries	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Net Gain recommended Marine Conservation Zones and reference areas The Net Gain stakeholder engagement process involves a wide range of organisations and individuals interested in, or concerned about, Marine Conservation Zones (MCZs) in the English North Sea. These sites show the collated output of the Net Gain regional stakeholder group (RSG) produced for the final recommendations. The sites represent recommended Marine Conservation Zones and recommended Reference Areas submitted to Government on 31 August 2011. These sites will be subject to formal public consultation before any designations are made by the Minister. The final recommendations report will be available on www.netgainmcz.org following submission. Prior reports and other progress information is also available for review here.	2009	2011	2009-2011	The site boundaries have been created through consultation with stakeholders throughout the duration of the project using digitised acetates created during meetings and subsequent modifications in ArcGIS.	N/A	Acknowledgment of Net Gain	Data can be released into public domain	Copyright	Not Planned	No maintenance required, site boundary recommendations complete.	Ian Saunders, Natural England, 3rd Floor, Touthill Close, City Road, Peterborough, England, PE1 1XN, United Kingdom, ian.saunders@naturalengland.org.uk	Net Gain
Net Gain	0	Flamborough Head NTZ byelaw	0	ESRI Shapefile	NESFC	WGS 1984/UTM31N	The shape of the Flamborough Head No Trawling Zone.	0	0	40756	Co-ordinates delineating the shape from the coast to the sea were digitised and converted to a polygon. This was clipped to the Net Gain boundary (coast). The polygon was then projected to the UTM Zone 31N.	Co-ordinates	The byelaw information should be acknowledged to the North Eastern IFCA. The information is free on request.	NE hold data	Copyright	Unknown	NESFC	Paul Lane, Town Hall, Bridlington, YO16 4LP, email: Paul.Lane@eastriding.gov.uk , Tel.: 01482 393692	Paul Lane, Town Hall, Bridlington, YO16 4LP, email: Paul.Lane@eastriding.gov.uk , Tel.: 01482 393692

Net Gain	0	TCE aggregate applications	2009 The Crown Estate, Aggregate Application Areas	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	<p>This dataset shows the location of current offshore aggregate Application Areas being progressed on Crown Estate owned seabed.</p> <p>This dataset has five attributes: Area Name, Company, Number, Notes and Source. Please note that more than one Application may be in process for the same geographical area, and as such some polygons in this data may be attributed to more than one company. Applications for renewals of Production Licences may also occur, giving rise to the situation where an area may be in both of these datasets. In this case the Production Licence version should be seen as the primary point of reference.</p> <p>The notes field is used to highlight which stage in the Offshore Aggregates Lifecycle the area is currently in. More information about these stages is given in the Lineage Statement. Often Application Areas predate digital mapping and as such there may be geographical boundary inconsistencies within or between GIS layers.</p> <p>Layers supplied by the Crown Estate are designed to show the legal locations detailed in the Crown Estate agreements. This means that these may include topological inconsistencies that will be reviewed and amended in the future as areas are subject to relicensing or expiry.</p>	0	0	2009	<p>This dataset shows the location of all current Crown Estate Application Areas currently being progressed by developers on the UK Continental Shelf.</p> <p>For the purposes of this dataset the term 'Application Area' has been used to describe the four stages of the Aggregates Lifecycle which precede the issue of a Dredging Licence. The Aggregates Lifecycle is the term that is used to describe the process of obtaining the legal right to remove offshore aggregates from Crown Estate seabed.</p> <p>Details about these stages are as follows:</p> <p>Pre-Application When a prospecting period has finished, confirmation is given by the developer that they are proceeding with their interest in the area (via informal consultation). The geographical area is usually the same as the preceding Prospecting Licence, but it may be reduced based on the location of workable resources.</p> <p>Application An application is submitted to the Regulator by a developer seeking permission to extract marine aggregate from the seabed, based on the results of their prospecting period. Application timescales are provided via the Dredging Licence Application Review Programme. The geographical area remains unchanged from the pre-application stage.</p> <p>Statutory Application A statutory application is the presentation of a completed application by the dredging company to the Marine Management Organisation (England) or the Welsh Assembly Government (Wales) for a decision. If this is successful a Statutory Dredging Permission is granted. The geographical area remains unchanged from the application stage.</p> <p>Pre-Licence Areas where a Statutory Dredging Permission has been granted by the Marine Management Organisation or Welsh Assembly Government but the pre-dredge surveys have not yet been submitted or approved, and the Crown Estate has yet to assign permission to the dredging company. The geographical area remains unchanged from the Statutory Application stage.</p> <p>Displaying this dataset in conjunction with other aggregates data. When displayed in addition to the Production Licence and Option/Prospecting datasets, Applications areas should be displayed in the second layer, below Production Licences, but above Option/Prospecting. Dataset is best displayed by showing all applications as one colour. The different statuses of applications are for information only.</p>	N/A	Provided through the Crown Estate website	Data can be shared with NE, JNCC and Defra	Copyright	Quarterly	email: data@thecrownestate.co.uk	email: data@thecrownestate.co.uk	email: data@thecrownestate.co.uk
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Net Gain	0	Aggregate value (£) of total resource	2010 The Crown Estate, Aggregate Value of Total Resource (£/km ²)	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	<p>These data represent the total resource value of specified regions around UK waters to the aggregates industry. Financial data have been calculated based on £ per km² and an assumed £20 per cubic metre (£13 per tonne).</p> <ul style="list-style-type: none"> – Values are averages of several licenses and applications. – Values may vary from the average across regions by >50%, for example where sand banks or in-filled channels are present. – Values are calculated by multiplying resources lying in the ground by an ex-gate price of £20 per m³ and dividing by the licensed area. – Value variation is related to a combination of both resource thickness and extent of resources (particularly patchiness). – Values are locally variable e.g. in the Bristol Channel, as a result of thick aggregate resource and the size of the licensed areas. 	0	0	2010	<p>Data have been created from input from Ian Selby (Minerals Manager) at the Crown Estate. Financial data have been calculated based on both current leases and known future applications and options (standard, extended and licence).</p> <p>Data were created from the following spreadsheet available on the Crown Estate database:</p> <p>S:\MARINE\Restricted\MaRS\GIS\TCE_Work\M CZ\Documents\Aggregates\aggregates_asset_valuation_v3_24092010.xls</p>	N/A	0	Data can be shared with NE, JNCC and Defra	Licence	As Needed	<p>James Knight, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, Tel: 020 7851 5157, email: James.Knight@thecrownestate.co.uk</p>	<p>James Knight, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, Tel: 020 7851 5157, email: James.Knight@thecrownestate.co.uk</p>	<p>James Knight, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, Tel: 020 7851 5157, email: James.Knight@thecrownestate.co.uk</p>
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Net Gain	0	TCE aggregate prospecting or options	2010 The Crown Estate, Aggregate Prospecting and Option Areas	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	<p>This dataset shows the location of current Option and Prospecting Licences issued by the Crown Estate.</p> <p>This dataset has five attributes; Area Name, Company, Number, Notes and Source. Please note that more than one option may be issued for the same geographical area, and as such some polygons in this data may be attributed to more than one company. The notes field is used to highlight which stage in the Offshore Aggregates Lifecycle the area is currently in. More information about these stages is given in the Lineage Statement.</p> <p>Often these agreements predate digital mapping and as such there may be geographical boundary inconsistencies within or between GIS layers. Layers supplied by The Crown Estate are designed to show the legal locations detailed in The Crown Estate agreements. This means that these may include topological inconsistencies that will be reviewed and amended in the future as areas are subject to relicensing or expiry.</p>	2010 2010 2010	<p>This dataset shows the location of all current Crown Estate prospecting or option areas UK Continental Shelf.</p> <p>For the purposes of this dataset the term 'Application Area' has been used to describe the four stages of the Aggregates Lifecycle which precede the issue of a Dredging Licence. The Aggregates Lifecycle is the term that is used to describe the process of obtaining the legal right to remove offshore aggregates from Crown Estate seabed.</p> <p>Details about these stages are as follows: Extended Option Following acceptance of a tender area, the Crown Estate, alongside the issuing of a prospecting licence, will also issue an Option Agreement. The Crown Estate Option Agreement provides exclusive rights to develop a production licence, following the successful completion of the application process under the relevant environmental consent process. The Option Agreement is for an initial period of five years from the date of the tender, and can be extended for a further five years if the application process has been unduly delayed and the progress is still expected. These shapes are those Option Agreements that have been extended Licence Option Following acceptance of a tender area, the Crown Estate, alongside the issuing of a prospecting licence, will also issue an Option Agreement. The Crown Estate Option Agreement provides exclusive rights to develop a production licence, following the successful completion of the application process under the relevant environmental consent process. This dataset shows Crown Estate Option Licences issued for 10 years with commencement from first day of licence. The Option area is based on the original prospecting area Standard Option Following acceptance of a tender area, The Crown Estate, alongside the issuing of a prospecting licence, will also issue an Option Agreement. The Crown Estate Option Agreement provides exclusive rights to develop a production licence, following the successful completion of the application process under the relevant environmental consent process. This dataset shows Crown Estate Option Licences issued for 10 years with commencement from first day of licence. The Option area is based on the original prospecting area Surrendered Option (relevant to other aggregate developments only) Option areas which have been surrendered before the end of the Option term. The surrendered area is blocked off from being used for aggregate dredging by other companies for 10 years</p> <p>Displaying this dataset in conjunction with other aggregates data. When displayed in addition to the Production Licence and Option/Prospecting datasets, Applications areas should be displayed in the second layer, below Production Licences, but above Option/Prospecting. Dataset is best displayed by showing all applications as one colour. The different statuses of applications are for information only.</p>	N/A	Provided through the Crown Estate website	Data can be shared with NE, JNCC and Defra	Copyright	Quarterly	The Crown Estate email: data@thecrownestate.co.uk	The Crown Estate email: data@thecrownestate.co.uk	The Crown Estate email: data@thecrownestate.co.uk
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Net Gain	NG 1c and 5	Brill Turbot	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Brill Turbot Fishing Region from available data and fisherman's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk . To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk . (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of brill turbot based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright. Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. Email: jwoo@esfjc.co.uk , 01553775321	Eastern Inshore Fisheries Conservation Authority
Net Gain	No sites	Cockle	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Cockle Fishing Region from available data and fisherman's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk . To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk . (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of cockles based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright. Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk , 01553775321	Eastern Inshore Fisheries Conservation Authority

Net Gain	NG 1b, 1c, 2, 5 and RA 1	Cod	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Cod Fishing Region from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of cod based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright. Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority
Net Gain	NG 1b, 1c, 2, 4, 5 and RA 1 and 8	Crustacea	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Crustacean Fishing Region from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of crustaceans based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright. Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority

Net Gain	Net Gain	NG 1c and 5	Dab Flounder	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Dab Flounder Fishing Region from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk . To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk . (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of dab flounder based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk , 01553775321	Eastern Inshore Fisheries Conservation Authority
Net Gain	Net Gain	NG 2	Herring Sprat	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project Herring and Sprat Fishing Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk . To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk . (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of herring and sprat based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk , 01553775321	Eastern Inshore Fisheries Conservation Authority

Net Gain	No sites	Mackerel	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Mackerel Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge – the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive-please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of mackerel based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority
Net Gain	No sites	Plaice	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Plaice Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of plaice based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority

Net Gain	Net Gain	No sites	Sand Eel	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Sandeel Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk . To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk . (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of sandeel based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk , 01553775321	Eastern Inshore Fisheries Conservation Authority
Net Gain	Net Gain	NG 1b, 1c, 2, 4, 5 and RA 1	Skate and Rays	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Skate and Rays Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk . To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk . (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of skates and rays based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk , 01553775321	Eastern Inshore Fisheries Conservation Authority

Net Gain	Net Gain	Whiting	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Whiting Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of whiting based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority
Net Gain	Net Gain	Bass	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Bass Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of bass based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority

Net Gain	Net Gain	NG 1b, 2 and RA 1	Dogfish	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Dogfish Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of dogfish based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority
Net Gain	Net Gain	No sites	Mussel	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Mussel Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of mussels based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority

Net Gain	NG 1c, 2, 4, 5, 8 and RA 6 and 7	Shrimp	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Shrimp Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of shrimp based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority
Net Gain	NG 1b, 1c, 2 and 5	Sole	2009-2010 Eastern Sea Fisheries Joint Committee Fisheries Mapping Project, Sole Fisheries Regions from available data and fishermen's knowledge	ESRI Shapefile	ESFJC Fishing	WGS 1984	This layer is the output of the Eastern Sea Fisheries Joint Committee's Fisheries Mapping Project, which aimed to describe, using best available data and fishermen's knowledge, the extent of the main fisheries within the ESFJC District. They are not, however, exhaustive – please use with discretion. Use of this data should never replace full, proper consultation within the fishing industry, but rather be seen as illustrative of the types of activity within the District and, where information is available, an indication of seasonality. A report on the Fisheries Mapping Project will be available in Spring 2012, and will contain information about how the data was collected and compiled, and the process of consultation which was undertaken. Please refer to the ESFJC website: www.eastern-ifca.gov.uk For further details on the project, its output, or guidance on how to interpret the data, please contact the project manager: jwoo@esfjc.co.uk. To register for updates to these layers (including forthcoming addition of metadata), please register your interest at jwoo@esfjc.co.uk. (Please acknowledge use of Fisheries Mapping Project data. It can be cited as: ESFJC, 2010- ESFJC District Fisheries Mapping Project).	2009	2010	2010	The shapefile contains polygons that indicate the location of sole based on available data and from fishermen's knowledge. The attribute table contains information that indicates gear types, seasonality, months present, importance, spawning areas and other comments relating to the location.	N/A	None.	Data can be released into public domain	Copyright: Please acknowledge use of Fisheries Mapping Project Data. This can be cited as: ESFJC, 2010-ESFJC District Fisheries Mapping Project.	Unknown	Eastern Inshore Fisheries Conservation Authority	Jessica Woo, Eastern Inshore Fisheries Conservation Authority, Kings Lynn, UK. email: jwoo@esfjc.co.uk, 01553775321	Eastern Inshore Fisheries Conservation Authority

Net Gain	0	<15m Hand intensity	2011 Net Gain, < 15m Hand activity intensity within the Net Gain project area	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Shows hand activity aggregated on to a 1 x 1km grid to give intensity of use, from data collected by Net Gain fisheries liaison officers, as part of the Fishermap project.	March 2010 October 2010 2011	1000	Data was created by extracting the <15m commercial fishermen from the Fishermap database that use the demersal trawl gear. The polygons were then spatially joined to a 1x1km grid that was created using the Hawth's Tools extension. The join_count field could then be used to determine the number of vessels active in that grid cell using this gear type.	N/A	Should be sourced from JNCC.	JNCC holds data	Copyright	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m Dredges intensity	2011 Net Gain, <15m Dredges Intensity within the Net Gain project area	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Shows dredging activity aggregated on to a 1 x 1km grid to give intensity of use, from data collected by Net Gain fisheries liaison officers, as part of the Fishermap project.	March 2010 October 2010 2011	1000	Dataset was created by extracting the <15m commercial fishermen from the Fishermap database that use the demersal trawl gear. The polygons were then spatially joined to a 1x1km grid that was created using the Hawth's Tools extension. The join_count field could then be used to determine the number of vessels active in that grid cell using this gear type.	N/A	Should be sourced from JNCC.	JNCC holds data	Copyright	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m Demersal Trawl intensity	2011 Net Gain, <15m Demersal Trawl Intensity within the Net Gain project area	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Shows demersal trawl activity aggregated on to a 1 x 1km grid to give intensity of use from data collected by Net Gain fisheries liaison officers, as part of Fishermap project.	March 2010 October 2010 2011	1000	Dataset was created by extracting the <15m commercial fishermen from the Fishermap database that use the demersal trawl gear. The polygons were then spatially joined to a 1x1km grid that was created using the Hawth's Tools extension. The join_count field could then be used to determine the number of vessels active in that grid cell using this gear type.	N/A	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	No sites	Disposal sites in Humber	2010 Associated British Ports Humber, Disposal Sites in the Humber Estuary	ESRI Shapefile	Associated British Ports Humber	WGS 1984/UTM31N	Disposal sites in Humber	2010 2010 2011	N/A	The shapefile contains polygons that indicate the locations of disposal sites in the Humber Estuary. The dataset was projected to UTM Zone 31N.	N/A	Acknowledge Associated British Ports.	Data can be released into public domain	Copyright	Not Planned	ABP Port of Grimsby	Tom Jaynes, Associated British Ports Humber, email: TJaynes@abports.co.uk, Tel.: 01472 263524	ABP Port of Grimsby
Net Gain	0	Norwegian fisheries data	0	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data was received by Net Gain direct from Norwegian fishermen through communication by Ian Rowe and Norwegian fishing representatives.	0 0 2011	N/A	Represents data at the ICES rectangle level of fishing activity carried out by the Norwegian fleet in UK territorial waters.	N/A	Should be sourced from JNCC.	JNCC holds data	Copyright	Not Planned	Johnny Murt, JNCC, email: johnny.Murt@jncc.gov.uk	Johnny Murt, JNCC, email: johnny.Murt@jncc.gov.uk	0
Net Gain	0	French fisheries data	0	ESRI Shapefile	CRPMEM Nord-Pas de Calais / Picardie	WGS 1984/UTM31N	Data layer shows fishing intensity for French vessels within the Net Gain project area at a 1km-sq scale.	0 0 2011	N/A	PDF image received from CRPMEM and polygons created and projected to UTM31N and were intersected with a 1km-sq grid to generate intensity for fishing activity within the Net Gain boundary.	N/A	Should be sourced from JNCC.	JNCC holds data	Copyright	Not Planned	Declan Tobin, JNCC, email: declan.tobin@jncc.gov.uk	Johnny Murt, JNCC, email: johnny.Murt@jncc.gov.uk	CRPMEM Nord-Pas de Calais / Picardie-Antony Viera
Net Gain	0	Dutch fisheries Texel fishing grounds	0	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data was received collected through international liaison conducted by Declan Tobin (JNCC) and Ian Rowe (Net Gain). Data is unvalidated and there is no data available for the number of vessels or the fleet segment represented.	0 0 0	N/A	Data was reprojected to UTM31N	N/A	Should be sourced from JNCC.	JNCC holds data	Copyright	Not Planned	Declan Tobin, JNCC, email: declan.tobin@jncc.gov.uk	Declan Tobin, JNCC, email: declan.tobin@jncc.gov.uk	0

Net Gain	0	<15m Lines intensity	2011 Net Gain, <15m Lines intensity within the Net Gain project area	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Shows lines activity aggregated on to a 1 x 1km grid to give intensity of use, from data collected by Net Gain fisheries liaison officers, as part of the Fishermap project.	March 2010 October 2010	2011	Dataset was created by extracting the <15m commercial fishermen from the Fishermap database that use the demersal trawl gear. The polygons were then spatially joined to a 1x1km grid that was created using the Hawth's Tools extension. The join_count field could then be used to determine the number of vessels active in that grid cell using this gear type.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m Nets intensity	2011 Net Gain, <15m Nets intensity within the Net Gain project area	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Shows nets activity aggregated on to a 1 x 1km grid to give intensity of use, from data collected by Net Gain fisheries liaison officers, as part of the Fishermap project.	March 2010 October 2010	2011	Dataset was created by extracting the <15m commercial fishermen from the Fishermap database that use the demersal trawl gear. The polygons were then spatially joined to a 1x1km grid that was created using the Hawth's Tools extension. The join_count field could then be used to determine the number of vessels active in that grid cell using this gear type.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m Pots and Traps intensity	2011 Net Gain, <15m Pots and Traps intensity within the Net Gain project area	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Shows pots & traps activity aggregated on to a 1 x 1km grid to give intensity of use, from data collected by Net Gain fisheries liaison officers, as part of the Fishermap project.	March 2010 October 2010	2011	Dataset was created by extracting the <15m commercial fishermen from the Fishermap database that use the demersal trawl gear. The polygons were then spatially joined to a 1x1km grid that was created using the Hawth's Tools extension. The join_count field could then be used to determine the number of vessels active in that grid cell using this gear type.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - DRB	2011 Net Gain, >15m Model - Boat dredges (DRB)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class DRB. Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated and therefore contains individual shapefiles for each individual record. Further geoprocessing is required if the data is to be presented visually.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - FPO	2011 Net Gain, >15m Model - Pots (FPO)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class pots (FPO). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - GN	2011 Net Gain, >15m Model - Gillnets (GN)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class Gillnets - not specified (GN). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - GNS	2011 Net Gain, >15m Model - Set gillnet (GNS)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class Set gillnet (GNS). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - HMD	2011 Net Gain, >15m Model - Mechanised Dredges (HMD)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class Mechanised Dredged (HMD). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain

Net Gain	0	>15m Model - SDN	2011 Net Gain, >15m Model - Danish seines (SDN)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class Danish Seine (SDN). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - PTM	2011 Net Gain, >15m Model - Pair trawl-midwater (PTM)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class pair trawls-midwater (PTM). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - PTB	2011 Net Gain, >15m Model - Pair trawl-bottom (PTB)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class pair trawls bottom (PTB). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - OTT	2011 Net Gain, >15m Model - Otter twin trawl (OTT)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class otter twin trawls (OTT). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - OTM	2011 Net Gain, >15m Model - Otter trawls-midwater (OTM)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class otter trawls-midwater (OTM). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - OTB	2011 Net Gain, >15m Model - Otter trawls bottom (OTB)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class otter trawls bottom (OTB). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - OT	2011 Net Gain, >15m Model - Otter trawls (OT)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class otter trawls (OT). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - LL	2011 Net Gain, >15m Model - Longline (LL)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class Longline (LL). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010 October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain

Net Gain	0	>15m Model - SPR	2011 Net Gain, >15m Model - Pair seines (SPR)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class Pair seines (SPR). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010	October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - SSC	2011 Net Gain, >15m Model - Scottish seines (SSC)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class Scottish seines (SSC). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010	October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	>15m Model - TMS	2011 Net Gain, >15m Model - Shrimp trawls - midwaterTMS	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data generated for the >15m gear class shrimp trawls-midwater (TMS). Data was generated by the VMS analysis model created by Shaun Lewin at Finding Sanctuary. Shapefile is not aggregated.	March 2010	October 2010	2011	For full methodology please refer to the fisheries model specification available from Net Gain which will be passed to Natural England/JNCC.	5000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m model - demersal trawls	2011 Net Gain, <15m Model - demersal trawls	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows demersal trawl activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and has been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m model - Dredges	2011 Net Gain, <15m Model - Dredges	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows dredging activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and has been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m model - Lines	2011 Net Gain, <15m Model - Lines	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows lines activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and has been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m model - Nets	2011 Net Gain, <15m Model - Nets	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows netting activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and has been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m model - Pots and traps	2011 Net Gain, <15m Model - Pots and traps	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows pots and traps activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and has been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m - Fine - Otter trawling	2011 Net Gain, <15m Model - Otter trawling (OT)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows the fine gear class otter trawling (OT) activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and has been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain

Net Gain	0	<15m - Fine - OTB	2011 Net Gain, <15m Model - Otter trawling bottom (OTB)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows the fine gear class otter trawling bottom (OTB) activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and has been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m - Fine - Beam trawls	2011 Net Gain, <15m Model - Beam trawls (TBB)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows the fine gear beam trawl (TBB) activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and has been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m - Fine - Nephrop trawl	2011 Net Gain, <15m Model - Nephrops trawls (TBN)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows the fine gear class nephrop trawl (TBN) activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and has been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m - Fine - Longlining	2011 Net Gain, <15m Model - Longlining (LL)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows the fine gear class long lining (LL) activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and have been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	<15m - Fine - LX	2011 Net Gain, <15m Model - Hooks and lines (LX)	ESRI Shapefile	Net Gain	WGS 1984/UTM31N	Data shows the fine gear class otter trawling (OT) activity recorded during the Fishermap mapping process completed during 2010. Data has been aggregated on to a 1 km-sq grid and have been used for the model for under 15m commercial fishing vessels landing and value estimates.	March 2010	October 2010	2011	For a full outline of the methodology and datasets used to create this layer please refer to the <15m model specification provided with this dataset.	1000	Data has been created from Fishermap extractions. Restrictions apply.	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	0	Nicola Church, JNCC, email : Nicola.church@jncc.gov.uk	Net Gain
Net Gain	0	AMIE Event point	0	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	AMIE dataset received by Net Gain from English Heritage, 5 July 2010. The AMIE Events dataset has evolved from material pooled from a number of sources of which the NMR Excavation Index for England is by far the largest, representing some 80,000 individual records of archaeological fieldwork including desk-based assessment, evaluation, excavation, watching brief, geophysical survey and building survey. Since 1990 the EI has been concorded with the Archaeological Investigations Project (AiP) and since April 2004 has been updated from the OASIS Project. Also included in the AMIE Events dataset are selected surveys created by English Heritage field teams and Aerial survey. Recording standards have also evolved over the course of time, the depth and quality of the records are constantly improving.	2010	2010	2010	Nothing has been done to the original data received.	N/A	Currently waiting for permission to be able to pass on the information.	Data cannot be released	Copyright	Not Planned	English Heritage	English Heritage- Enquiry and Research Services email: mailto:nmrinfo@english-heritage.org.uk	English Heritage

Net Gain	0	AMIE Monument Line	0	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	AMIE dataset received by Net Gain from English Heritage, 5 July 2010. The AMIE Events dataset has evolved from material pooled from a number of sources of which the NMR Excavation Index for England is by far the largest, representing some 80,000 individual records of archaeological fieldwork including desk-based assessment, evaluation, excavation, watching brief, geophysical survey and building survey. Since 1990 the EI has been concorded with the Archaeological Investigations Project (AiP) and since April 2004 has been updated from the OASIS Project. Also included in the AMIE Events dataset are selected surveys created by English Heritage field teams and Aerial survey. Recording standards have also evolved over the course of time, the depth and quality of the records are constantly improving.	2010	2010	2010	Nothing has been done to the original data received.	N/A	Currently waiting for permission to be able to pass on the information.	Data cannot be released	Copyright	Not Planned	English Heritage	English Heritage-Enquiry and Research Services email: mailto:nmrinfo@english-heritage.org.uk	English Heritage
Net Gain	0	AMIE Monument Point	0	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	AMIE dataset received by Net Gain from English Heritage, 5 July 2010. The AMIE Events dataset has evolved from material pooled from a number of sources of which the NMR Excavation Index for England is by far the largest, representing some 80,000 individual records of archaeological fieldwork including desk-based assessment, evaluation, excavation, watching brief, geophysical survey and building survey. Since 1990 the EI has been concorded with the Archaeological Investigations Project (AiP) and since April 2004 has been updated from the OASIS Project. Also included in the AMIE Events dataset are selected surveys created by English Heritage field teams and Aerial survey. Recording standards have also evolved over the course of time, the depth and quality of the records are constantly improving.	2010	2010	2010	Nothing has been done to the original data received.	N/A	Currently waiting for permission to be able to pass on the information.	Data cannot be released	Copyright	Not Planned	English Heritage	English Heritage-Enquiry and Research Services email: mailto:nmrinfo@english-heritage.org.uk	English Heritage
Net Gain	0	AMIE Monument Polygon	0	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	AMIE dataset received by Net Gain from English Heritage, 5 July 2010. The AMIE Events dataset has evolved from material pooled from a number of sources of which the NMR Excavation Index for England is by far the largest, representing some 80,000 individual records of archaeological fieldwork including desk-based assessment, evaluation, excavation, watching brief, geophysical survey and building survey. Since 1990 the EI has been concorded with the Archaeological Investigations Project (AiP) and since April 2004 has been updated from the OASIS Project. Also included in the AMIE Events dataset are selected surveys created by English Heritage field teams and Aerial survey. Recording standards have also evolved over the course of time, the depth and quality of the records are constantly improving.	2010	2010	2010	Nothing has been done to the original data received.	N/A	Currently waiting for permission to be able to pass on the information.	Data cannot be released	Copyright	Not Planned	English Heritage	English Heritage-Enquiry and Research Services email: mailto:nmrinfo@english-heritage.org.uk	English Heritage

Net Gain	Net Gain	Net Gain	Net Gain	Protected wrecks	0	0	0	0	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	Protected Wrecks acquired from English Heritage. (Downloaded from http://www.english-heritage.org.uk/professional/archives-and-collections/nmr/spatial-data/) Protected Wreck Sites in English territorial waters, located by latitude and longitude with the limit of each protected area recorded as a polygon. The location and extent of each site is derived from its Statutory Instrument. Textual information extracted from the National Heritage List for England. Last updated: 4 April 2011. For more information see the xml document (EH_ProtectedWrecks.xml). Source: NMR Enquiries and Research Services English Heritage The Engine House Fire Fly Avenue Swindon SN2 2EH nmrinfo@english-heritage.org.uk Field – description. FID – unique record number for GI feature. Shape – geometry type of feature. ListEntry – list entry number:– unique reference number from the National Heritage List for England. Name – name of wreck site. DesigDate – date on which the wreck site was designated as a restricted area. LegacyUID – unique reference number from EH legacy system. SInumber – statutory instrument number(s) identifying the designation order(s) for the wreck site. AmendDate – date on which the designation was last amended. Latitude – latitude in decimal degrees (WGS84). Longitude – longitude in decimal degrees (WGS84). Easting – centroid easting. Northing – Centroid northing. AREA_HA – area of the polygon in hectares	2011	2011	2011	Re-projection and clipped to the Net Gain boundary.	N/A	Freely available for download from the English Heritage website, with acknowledgement to English Heritage when used.	Data cannot be released to SNCBs (data consent form has not been received)	Copyright	As Needed	English Heritage	English Heritage, downloaded freely from http://services.english-heritage.org.uk/NMRDataDownload	English Heritage
Net Gain	Net Gain	Net Gain	Net Gain	Record Of Scheduled Monument	0	0	0	0	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	Scheduled Monuments received from English Heritage, 5 July 2010. Scheduled Monuments refer to an archaeological site that is recognised as being of national importance and is by definition legally protected and conserved. Sites identified as a scheduled monument are designated by the Secretary of State. Data received by post (CD) from the Enquiry and Research Services of English Heritage.	2010	2010	2010	The only change to the original data that was received was re-projection.	N/A	Currently waiting for permission to be able to pass on the information.	Data cannot be released	Copyright	Unknown	English Heritage	English Heritage-Enquiry and Research Services email: mailto:nmrinfo@english-heritage.org.uk	English Heritage
Net Gain	Net Gain	Net Gain	Net Gain	Record Of Scheduled Monument	0	0	0	0	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	Scheduled Monuments received from English Heritage, 5 July 2010. Scheduled Monuments refer to an archaeological site that is recognised as being of national importance and is by definition legally protected and conserved. Sites identified as a scheduled monument are designated by the Secretary of State. Data received by post (CD) from the Enquiry and Research Services of English Heritage.	2010	2010	2010	The only change to the original data that was received was re-projection.	N/A	Currently waiting for permission to be able to pass on the information.	Data cannot be released	Copyright	Unknown	English Heritage	English Heritage-Enquiry and Research Services email: mailto:nmrinfo@english-heritage.org.uk	English Heritage
Net Gain	Net Gain	Net Gain	Net Gain	Scheduled monuments	NG 11 and NG 13				ESRI Shapefile	English Heritage	WGS 1984/UTM31N	Data was downloaded 9 October 2009 from the English Heritage website Downloaded from http://services.english-heritage.org.uk/NMRDataDownload/ A 'Scheduled Monument' refers to an archaeological site that is recognised as being of national importance and is by definition legally protected and conserved. Sites identified as a scheduled monument are designated by the Secretary of State. Once a site is scheduled, consent must be obtained from the Secretary of State for any works which affect it. English Heritage advises the Government on sites that should be included on the Schedule and on individual cases for scheduled monument consent. English Heritage also offers management for the care of such monuments.	1993	2003	2004	The shapefile contains polygons which indicate the location of scheduled monuments and their names, with the date of AC between 1993 and 2003, co-ordinates and area coverage (ha). Data has been reprojected to WGS84 UTM31N to align with Net Gain datasets and has been clipped to the Net Gain regional boundary for the purposes of the project.	N/A	Freely available for download from the English Heritage website, with acknowledgement to English Heritage when used.	Data can be released into public domain	Copyright	As Needed	English Heritage	English Heritage, downloaded freely from http://services.english-heritage.org.uk/NMRDataDownload	English Heritage

Net Gain	0	War graves	0	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	War graves, designated shipwreck sites provided by CANT, Serena [email: Serena.Cant@english-heritage.org.uk] from English Heritage, 20 September 2010.	2010	2010	2010	War_graves is original file and War_graves_UTM31N is reprojected to WGS84 UTM31N.	N/A	Currently waiting for permission to be able to pass on the information.	Data cannot be released	copyright	As Needed	English Heritage	Serena Cant, Data Team Officer, English Heritage, Kemble Drive, Swindon, Wiltshire, UK, SN2 2GZ, email: serena.cant@english-heritage.org.uk	English Heritage
Net Gain	No sites	World heritage sites	2009 English Heritage, Location of World Heritage Sites and 2009 English Heritage, World Heritage Sites within the Net Gain Regional Project Boundary	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	Data downloaded 9th October, 2009 from English Heritage website, date associated with data is 13 March 2009. The polygon data represents Net Gain's interpretation of the UNESCO World Heritage Site boundaries. For indication purposes only. The dataset does not include the World Heritage Site buffer zones. Data downloadable from http://services.english-heritage.org.uk/NMRDataDownload	2009	2009	2009	The data shows polygon locations of UNESCO World Heritage sites, and has been reprojected in WGS1984 UTM31N to align with Net Gains projection.	N/A	Acknowledge English Heritage, freely available for download on the English Heritage website.	Data can be released into public domain	Copyright	As Needed	English Heritage	English Heritage, downloaded freely from http://services.english-heritage.org.uk/NMRDataDownload	English Heritage
Net Gain	0	Hadrian's Wall	0	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	World Heritage Site (Hadrian's Wall) received from the English Heritage by post (CD), 5 July 2010. Data is free upon request. The polygon data represents our interpretation of the data UNESCO World Heritage Site boundaries. The dataset does not include the World Heritage Site buffer zones.	2010	2010	2010	The only change to the original data that was received was re-projection.	N/A	Currently waiting for consent for permission to be able to pass on the information.	Data cannot be released	Copyright	Not Planned	English Heritage	English Heritage-Enquiry and Research Services mailto:nmrinfo@english-heritage.org.uk	English Heritage
Net Gain	NG 5	MOD barge bombing target	2011 Ministry of Defence, barge bombing target	ESRI Shapefile	MoD	WGS 1984/UTM31N	MOD barge bombing target, co-ordinates received during May 2011 Net Gain Lincolnshire and the Wash hub meeting, and are also available on admiral charts. Bombs fall to the seafloor and create an artificial reef below the barge.	2011	2011	2011	Co-ordinates for the location of a bombing barge were received and plotted in UTM 31N projection. The co-ordinates are also available on Admiralty charts.	N/A	Sourced from the MOD, co-ordinate is available on Admiralty charts.	Data can be released into public domain	Copyright	Not Planned	0	Linda Bourne, Ministry of Defence, linda.bourne536@mod.uk	Net Gain
Net Gain	0	Coastal activities	2010 The Crown Estate, Outfalls on The Crown Estate owned Foreshore and Seabed	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	BIRD_ID: this is a unique identifier for each bird sighting. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the word 'Outfall'. Therefore it is possible that this dataset may contain data that is not relevant.	2010	2010	2010	This dataset was derived from the Crown Estate's Agreement layer which contains information on the individual current, historic, expired and pending dealings relating to the foreshore of England and Wales.	N/A	Provided through the Crown Estate website	Data can be shared with NE, JNCC and Defra	Licence	As Needed	email: data@thecrownstate.co.uk	email: data@thecrownstate.co.uk	email: data@thecrownstate.co.uk

Net Gain	0	TCE Gas storage leases	2010 The Crown Estate, Gas Storage Lease Location	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	<p>This dataset shows gas storage leases given by the Crown Estate. At this stage there are only one lease, Rough. The other two sites, Deborah and Gateway, are Agreement for Lease sites and are subject to change before a final lease is granted.</p>	0	0	2010	<p>The Rough gas storage area is owned by Centrica. Rough acts as a storage facility for gas shippers and suppliers, allowing them to feed gas into Transco's National Transmission System when demand is at its peak, or withdraw and re-inject it into the reservoir when demand is low. Any company with a UK gas shipper licence can apply to purchase storage capacity at Rough. Gas is injected and extracted from Rough, through 30 wells which have been drilled from the platforms above it down to the reservoir. It is extracted as a vapour and undergoes several separation processes offshore, before being sent via a 91cm (36inch) sub-sea pipeline to the Easington terminal. To maintain pressure within the reservoir, a certain amount of gas, known as 'cushion gas', is left untouched. This gas maintains the pressure within the Rough field. The Easington terminal plays a critical part in processing this gas before it enters the National Transmission System. Gas from Rough is a mixture of condensate (a light oil similar to paraffin) and gas. Separation dries out the gas before the liquid condensate is treated.</p> <p>Further information can be found here: http://www.centrica-sl.co.uk/index.asp?pageid=46</p> <p>Gateway is located in the eastern Irish Sea and is operated by Gateway Storage Company Ltd (Gateway). Gateway will comprise of 20 underground man-made storage caverns which will be specially created by a solution mining process (leaching) in the salt strata beneath the Irish Sea. Each cavern will be completed with a wellhead, and will be connected to a 'ring main' by a short pipeline and isolation valve. Two pipelines and a power cable will connect the offshore ring main to a new GCS, located onshore at Barrow-in-Furness. A pipeline and metering system will connect the GCS to the National Grid Gas National Transmission System (NGG NTS) also located in Barrow-in-Furness. Further information can be found here: http://www.gatewaystorage.co.uk/</p> <p>Deborah will have a working gas capacity of 4.6 bcm, more than doubling the UK's storage capacity and enhancing not only security of supply but also the scope and range of storage services available to the North West European market. It will be the largest storage facility in Europe, when completed. Located 25 miles offshore near the main centres of UK demand, and with excellent links to the rest of the North West European gas market, Deborah will provide a major new seasonal storage service with a large degree of flexibility.</p>	N/A	Provided through the Crown Estate website	Data can be shared with NE, JNCC and Defra	Licence	Continual	email: data@thecrownstate.co.uk	email: data@thecrownstate.co.uk	email: data@thecrownstate.co.uk
Net Gain	0	TCE MaRS knowledge gas storage	0	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	<p>The dataset shows the CCS sites in UK waters which are known to the Crown Estate. This information changes regularly and this dataset should not be considered final.</p> <p>The Crown Estate has rights under the Energy Act 2004 in the Renewable Energy Zone (REZ) on the UK's continental shelf out to 200 nautical miles. On 6 April 2009, this role was extended under the Energy Act 2008 to allow obtained further rights under the Energy Act 2008 to award leases for the use of these offshore areas for natural gas storage and the unloading of liquefied natural gas (LNG). In order to undertake storage of gas in the UK offshore it will be necessary for a developer to obtain permission from the Crown Estate to use the relevant area of the seabed as well as a DECC / Scottish Government permit for the storage of the carbon dioxide.</p>	0	0	2008	<p>The Crown Estate plays an important part in the development of the UK's renewable energy industry as owner of the UK seabed out to the 12 nautical miles territorial sea limit, with rights under the Energy Act 2004 in the Renewable Energy Zone (REZ) on the UK's continental shelf out to 200 nautical miles. As from 6 April 2009 it obtained further rights under the Energy Act 2008 to award leases for the use of these offshore areas for natural gas storage and the unloading of liquefied natural gas (LNG). The Act enabled the UK to exercise its rights under UNCLOS beyond the territorial sea and extended up to 200 nautical miles with the creation of a Gas Importation and Storage Zone (GISZ).</p> <p>Any rights from The Crown Estate will be conditional upon the applicant obtaining a suitable gas storage licence from DECC, and a positive outcome from any relevant Strategic Environmental Assessment (SEA). The existing exclusive rights of petroleum licensees will not be affected whilst their petroleum licence remains in existence.</p> <p>Further information on gas storage applications can be found here: http://www.thecrownstate.co.uk/offshore-gas-storage</p>	N/A	Confidential – not for public viewing	Data cannot be released	Restricted	Biannually	email: data@thecrownstate.co.uk	email: data@thecrownstate.co.uk	email: data@thecrownstate.co.uk

Net Gain	0	Potential CCS gas sites	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	0	0	2008	<p>The Crown Estate plays an important part in the development of the UK's renewable energy industry as owner of the UK seabed out to the 12 nautical miles territorial sea limit, with rights under the Energy Act 2004 in the Renewable Energy Zone (REZ) on the UK's continental shelf out to 200 nautical miles. As from 6 April 2009 it obtained further rights under the Energy Act 2008 to award leases for the use of these offshore areas for natural gas storage and the unloading of liquefied natural gas (LNG). The Act enabled the UK to exercise its rights under UNCLOS beyond the territorial sea and extended up to 200 nautical miles with the creation of a Gas Importation and Storage Zone (GISZ).</p> <p>The dataset shows CCS and gas storage sites which are proposed.</p> <p>The Crown Estate has rights under the Energy Act 2004 in the Renewable Energy Zone (REZ) on the UK's continental shelf out to 200 nautical miles. On 6 April 2009, this role was extended under the Energy Act 2008 to allow obtained further rights under the Energy Act 2008 to award leases for the use of these offshore areas for natural gas storage and the unloading of liquefied natural gas (LNG). In order to undertake storage of gas in the UK offshore it will be necessary for a developer to obtain permission from The Crown Estate to use the relevant area of the seabed as well as a DECC / Scottish Government permit for the storage of the carbon dioxide.</p> <p>Any rights from The Crown Estate will be conditional upon the applicant obtaining a suitable gas storage licence from DECC, and a positive outcome from any relevant Strategic Environmental Assessment (SEA). The existing exclusive rights of petroleum licensees will not be affected whilst their petroleum licence remains in existence.</p> <p>Further information on gas storage applications can be found here: http://www.thecrownestate.co.uk/offshore-gas-storage</p>	N/A	Confidential – not available for public viewing	Data cannot be released	Restricted	Biannually	email: data@thecrownestate.co.uk	email: data@thecrownestate.co.uk	email: data@thecrownestate.co.uk
Net Gain	0	Outfall and intake for the Cleveland potash mine	ESRI Shapefile	Cleveland Potash Ltd	WGS 1984/UTM31N	0	0	2010	<p>The outfall and intake for the Boulby potash mine lease area provided by Cleveland Potash Ltd, 2010.</p> <p>The shape was created using co-ordinates and a plan of the Cleveland Potash site supplied by the Cleveland Potash Limited to result in a shapefile with point data.</p>	GPS co-ordinates	Restricted, can be passed to NE, JNCC and Defra only.	MEDIN data must NOT be displayed, data only to be passed to NE and JNCC and Defra	Restricted	Not Planned	Dave McLuckie, Cleveland Potash Ltd, Boulby Mine, Loftus, Saltburn by the Sea, Cleveland, TS13 4UZ, email: David.Mcluckie@clevelandpotash.co.uk	Dave McLuckie, Cleveland Potash Ltd, Boulby Mine, Loftus, Saltburn by the Sea, Cleveland, TS13 4UZ, email: David.Mcluckie@clevelandpotash.co.uk	Dave McLuckie, Cleveland Potash Ltd, Boulby Mine, Loftus, Saltburn by the Sea, Cleveland, TS13 4UZ, email: David.Mcluckie@clevelandpotash.co.uk
Net Gain	0	Potash mine lease	ESRI Shapefile	Cleveland Potash Ltd	WGS 1984/UTM31N	0	0	2010	<p>Boulby potash mine lease area provided by Cleveland Potash Ltd, 2010.</p> <p>The shape was created using co-ordinates and a plan of the Cleveland Potash site supplied by Cleveland Potash Limited. The coastline boundary has been derived from the Net Gain project boundary which is largely based on political and administrative boundaries. The exact limits of the UK Continental Shelf are set out in orders made under section 1(7) of the Continental Shelf Act 1964 (© Crown copyright).</p>	GPS co-ordinates	Restricted, can be passed to NE, JNCC and Defra only.	MEDIN data must NOT be displayed, data only to be passed to NE and JNCC and Defra	Restricted	Not Planned	Dave McLuckie, Cleveland Potash Ltd, Boulby Mine, Loftus, Saltburn by the Sea, Cleveland, TS13 4UZ, email: David.Mcluckie@clevelandpotash.co.uk	Dave McLuckie, Cleveland Potash Ltd, Boulby Mine, Loftus, Saltburn by the Sea, Cleveland, TS13 4UZ, email: David.Mcluckie@clevelandpotash.co.uk	Dave McLuckie, Cleveland Potash Ltd, Boulby Mine, Loftus, Saltburn by the Sea, Cleveland, TS13 4UZ, email: David.Mcluckie@clevelandpotash.co.uk
Net Gain	0	Tailings tunnel	ESRI Shapefile	Cleveland Potash Ltd	WGS 1984/UTM31N	0	0	2010	<p>The tailings tunnel for the Boulby potash mine lease area provided by Cleveland Potash Ltd, 2010.</p> <p>The shape was created using co-ordinates and a plan of the Cleveland Potash site supplied by the Cleveland Potash Limited.</p>	GPS co-ordinates	Restricted, can be passed to NE, JNCC and Defra only.	MEDIN data must NOT be displayed, data only to be passed to NE and JNCC and Defra	Restricted	Not Planned	Dave McLuckie, Cleveland Potash Ltd, Boulby Mine, Loftus, Saltburn by the Sea, Cleveland, TS13 4UZ, email: David.Mcluckie@clevelandpotash.co.uk	Dave McLuckie, Cleveland Potash Ltd, Boulby Mine, Loftus, Saltburn by the Sea, Cleveland, TS13 4UZ, email: David.Mcluckie@clevelandpotash.co.uk	Dave McLuckie, Cleveland Potash Ltd, Boulby Mine, Loftus, Saltburn by the Sea, Cleveland, TS13 4UZ, email: David.Mcluckie@clevelandpotash.co.uk
Net Gain	0	Cruising Routes	ESRI Shapefile	RYA	WGS 1984	0	0	40422	<p>Current RYA cruising routes.</p> <p>Original shapefile licensed from RYA.</p>	N/A	Available on request (RYA licence applies).	Data cannot be released	Licence	Unknown	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100

Net Gain	0	RYA Sailing Areas	0	ESRI Shapefile	RYA	WGS 1984	Current RYA sailing areas.	0	0	40422	Original shapefile licensed from RYA.	N/A	Available on request (RYA licence applies).	Data cannot be released	Licence	Unknown	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100
Net Gain	0	RYA Training Centres	0	ESRI Shapefile	RYA	WGS 1984	RYA training centres.	0	0	40269	Original shapefile licensed from RYA.	N/A	Available on request (RYA licence applies).	Data cannot be released	Licence	Unknown	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100
Net Gain	0	RYA Scotland Marinas	0	ESRI Shapefile	RYA	WGS 1984	RYA Scotland marinas.	0	0	40269	Original shapefile licensed from RYA.	N/A	Available on request (RYA licence applies).	Data cannot be released	Licence	Unknown	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100
Net Gain	0	RYA Marinas	0	ESRI Shapefile	RYA	WGS 1984	RYA marinas.	0	0	40269	Original shapefile licensed from RYA.	N/A	Available on request (RYA licence applies).	Data cannot be released	Licence	Unknown	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100
Net Gain	0	RYA Clubs	0	ESRI Shapefile	RYA	WGS 1984	RYA clubs.	0	0	40269	Original shapefile licensed from RYA.	N/A	Available on request (RYA licence applies).	Data cannot be released	Licence	Unknown	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100
Net Gain	0	RYA Racing Areas	0	ESRI Shapefile	RYA	WGS 1984	Current RYA racing areas.	0	0	40422	Original shapefile licensed from RYA.	N/A	Available on request (RYA licence applies).	Data cannot be released	Licence	Unknown	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100	Caroline Price, Royal Yachting Association, RYA House, Ensign Way, Hamble, Hants, SO31 4YA, email: caroline.price@rya.org.uk, Tel: 023 8060 4100
Net Gain	0	Relative fishing effort from sightings data	0	ESRI Shapefile	SFC and MIMO	WGS 1984/UTM31N	National Inshore Fisheries Data Layer Relative fishing effort data layer produced from sightings data provided by Sea Fisheries Committees and the Marine Management Organisation. Layer contains information for mobile and static gears for the years 2007–2009. Relative fishing effort data layer produced from sightings data provided by Sea Fisheries Committees and the Marine Management Organisation.	0	0	2010	Data provided by SFCs and MMO and analysed by Cefas, shows the number of mobile and static gears using an area separated by ICES squares.	N/A	0	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	Koen Vanstaen, Cefas, Cefas, Pakefield Road, Lowestoft, Suffolk, NR33 0HT, Tel: 01502 524489, email: koen.vanstaen@cef.co.uk	Koen Vanstaen, Cefas, Cefas, Pakefield Road, Lowestoft, Suffolk, NR33 0HT, Tel: 01502 524489, email: koen.vanstaen@cef.co.uk	Koen Vanstaen, Cefas, Cefas, Pakefield Road, Lowestoft, Suffolk, NR33 0HT, Tel: 01502 524489, email: koen.vanstaen@cef.co.uk

Net Gain	0	Sightings 05-09 Northumberland IFCA	0	XLS spreadsheets	Northumberland IFCA	0	Sightings of fishing activity for 2005–2009 within the Northumberland Sea	2005	2009	2009	n/a	Co-ordinates	Restricted, can be passed to NE, JNCC and Defra only	Data can be shared with NE, JNCC and Defra	Restricted	Annually	M. H. Hardy, Jon Green, email: nifca@nifca.gov.uk, 01670 731399	M. H. Hardy, Jon Green, email: nifca@nifca.gov.uk, 01670 731399	M. H. Hardy, Jon Green, email: nifca@nifca.gov.uk, 01670 731399
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Net Gain	0	Tidal power (pol)	0	ESRI Shapefile	ABPmer (on behalf of BERR)	WGS 1984/UTM31N	<p>Tidal data supplied by Proudman Oceanographic Laboratory (POL) on behalf of BERR for the Atlas of UK Marine Renewable Energy Resources project. This layer contains the primary tidal data attributes from the Atlas database for sigma levels closest to the depths of 50% of the surface. This dataset includes information about Flow, Power and Tidal Range for the area of the UK Continental Shelf. For further information please refer to 2008 Renewable Atlas technical report available from http://www.renewables-atlas.info/.</p> <p>-----</p> <p>Further information regarding attribute headings and units is attached as binary enclosure which can be extracted using the metadata properties button in ESRI ArcCatalog or downloaded as a text file from the metadata page of http://www.renewables-atlas.info/.</p>	0	0	2008	<p>Derived from a Proudman Oceanographic Laboratory (POL) model. Data is supplied at a resolution of 1/60° latitude by 1/40° longitude – a horizontal resolution of approximately 1 nautical mile (1.8km) for 169,709 model cells within the UK Continental Shelf. Data derived from the POL High Resolution Continental Shelf (HCRS) model.</p> <p>The domain of the model covers 12°W to 13°E ; 48°N to 63°N within the 200m depth contour. The model is a 3D model with tidal data available at 32 evenly spaced sigma levels through depth.</p> <p>For the purposes of this project, the domain has been limited to the UK Renewable Energy Zone (REZ). The tidal current parameters have been computed independently for sigma levels. This dataset represents the closest layer to 50% from the surface.</p>	1800	<p>THIS IS A LICENCE AGREEMENT BETWEEN THE DEPARTMENT OF BUSINESS, ENTERPRISE AND REGULATORY REFORM ("LICENSOR") AND YOU ("Licensee")</p> <p>YOU MUST READ AND ACCEPT ALL THE TERMS AND CONDITIONS SET OUT BELOW BEFORE YOU USE THE DATA. BY USING THE DATA, YOU (AN INDIVIDUAL OR LEGAL ENTITY) AGREE WITH THE LICENSOR TO BECOME THE LICENSEE TO THIS LICENCE AGREEMENT AND CONSENT TO BE BOUND BY ALL OF ITS TERMS. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS LICENCE AGREEMENT, DO NOT USE THE DATA.</p> <p>1. Grant of Licence.</p> <p>1.1. By using the Data the Licensor grants you ("the Licensee") a non-exclusive, non-transferable limited licence to use the accompanying Atlas of UK Marine Renewable Energy Resources Datasets including without limitation the Met Office and Proudman Oceanographic Laboratory data forming part of the content, electronic documentation (if applicable) strictly in accordance with the terms and conditions of this Licence Agreement.</p> <p>1.2. The Licensee must ensure that the copyright notice of the Licensor is duplicated as it appears in or on the Data on all authorised copies. The Licensee must not assign or transfer this Licence Agreement to any third party. The Licensee shall destroy the Data and all upgrades (if any) or copies in its possession promptly upon termination of this Licence Agreement or discontinuance of the licence granted, for whatever reason.</p> <p>1.3. The Data is provided 'as is' without any warranty of any kind either express or implied including but not limited to the implied warranties of satisfactory quality or fitness for a particular purpose.</p> <p>1.4. The express terms of this Licence Agreement are in lieu of all warranties, conditions, undertakings, terms and obligations implied by statute, common law, trade usage, course of dealing or otherwise all of which are excluded to the fullest extent permitted by law.</p> <p>1.5. The Licensor does not warrant that the Data will be error-free or that such errors will be corrected and the Licensee is solely responsible for all costs and expenses associated with rectification, repair or damage caused by such errors.</p> <p>1.6. Except for death or personal injury arising from the Licensor's negligence, the Licensor excludes and disclaims all liability for any loss or damage whatsoever or howsoever caused arising directly or indirectly in connection with this Licence Agreement, the Data, its use or otherwise. The Licensor expressly excludes liability for indirect, special, incidental or consequential loss or damage (including without limitation loss of profits or business) howsoever caused even if advised of the possibility of such damages. Notwithstanding the foregoing, in the event the Licensee incurs any liability whatsoever under this Licence Agreement, such liability is limited to the licence fee paid by the Licensee for the Data.</p> <p>2. Ownership of the Data</p> <p>2.1. The Licensor shall at all times remain the owners of their respective intellectual property and like proprietary rights subsisting in or used in connection with the Data (including without limitation copyrights and database rights).</p> <p>2.2. The Licensor may terminate this Licence Agreement at any time if the Licensee is in breach of any of the terms and conditions of this Licence Agreement. The Licensee may terminate this Licence Agreement at any time by destroying the Data and all copies of it. If the Licensor notifies the Licensee of such termination, the Licensee shall comply with the provisions of this Licence Agreement.</p> <p>2.3. The Crown owns the intellectual property rights in the Met Office and Proudman Oceanographic</p>	Data cannot be released to MEDIN	Licence	Unknown	Data team, ABPmer, Suite B, Waterside House, Town Quay, Southampton, Hampshire, SO14 2AQ, Tel: +44 (0)23 8033 8100, email: enquires@abpmer.co.uk	Data team, ABPmer, Suite B, Waterside House, Town Quay, Southampton, Hampshire, SO14 2AQ, Tel: +44 (0)23 8033 8100, email: enquires@abpmer.co.uk	Data team, ABPmer, Suite B, Waterside House, Town Quay, Southampton, Hampshire, SO14 2AQ, Tel: +44 (0)23 8033 8100, email: enquires@abpmer.co.uk
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Net Gain	0	Wave power (pol)	0	ESRI Shapefile	ABPmer (on behalf of BERR)	WGS 1984/UTM31N	<p>Wave data supplied by the Met Office on behalf of BERR for the Atlas of UK Marine Renewable Energy Resources project. This layer contains the primary wave data attributes from the Atlas database. This dataset includes information about Significant Wave Heights and Full Wave Field Power for the area of the UK Continental Shelf. All data recorded 2001 to 2008. For further information please refer to 2008 Renewable Atlas technical report available from http://www.renewables-atlas.info/.</p> <p>-----</p> <p>Further information regarding attribute headings and units is attached as binary enclosure which can be extracted using the metadata properties button in ESRI ArcCatalog or downloaded as a text file from the metadata page of http://www.renewables-atlas.info/.</p>	0	0	2007	<p>The majority of the wave data is generated from the Met Office UK Waters Wave Model which provides coverage over the major part of the UKCS, with the exception of outer shelf areas which has been supplied from the Met Office Global Wave model which has a resolution of 1/9° latitude by 1/6° longitude (approximately 11km in mid-latitudes). The UK Waters Wave Model became operational in June 2000 and has an archive of results stored at hourly intervals from approximately the last seven years.</p> <p>The wave models are based on a second generation spectral scheme (Golding, 1983) which can typically resolve waves with periods between 3 and 25 seconds, and deep-water wavelengths from 15 to 975m. The models are forced using the wind field 10m above mean sea level derived by the Met Office atmospheric models, which assimilate observational data from satellite, ship and met buoy networks. It is the wind strength, duration and direction that defines the frequency and directional bins in which energy is transferred to the wave model through the process of 'wind-sea' growth. Parameterisations of the wind-sea spectral peaked-ness and peak frequency are used to select an appropriate member of the JONSWAP family of spectra to represent the growing 'wind-sea'</p>	12000	<p>THIS IS A LICENCE AGREEMENT BETWEEN THE DEPARTMENT OF BUSINESS, ENTERPRISE AND REGULATORY REFORM ("LICENSOR") AND YOU ("Licensee") YOU MUST READ AND ACCEPT ALL THE TERMS AND CONDITIONS SET OUT BELOW BEFORE YOU USE THE DATA. BY USING THE DATA, YOU (AN INDIVIDUAL OR LEGAL ENTITY) AGREE WITH THE LICENSOR TO BECOME THE LICENSEE TO THIS LICENCE AGREEMENT AND CONSENT TO BE BOUND BY ALL OF ITS TERMS. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS LICENCE AGREEMENT, DO NOT USE THE DATA.</p> <p>1. Grant of Licence. 1.1. 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Net Gain	0	Tidal lease sites	2010 The Crown Estate, Tidal Lease Sites	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	<p>This dataset shows the extent of live tidal leases in UK waters. Some leases are part of Round 1 in Pentland Firth where successful bidders for this project were announced by the Crown Estate on 16 March 2010. Remaining areas are demonstration sites used for demonstration of technology purposes only. Positional corrections of Pentland Firth sites on 30 July 2010.</p> <p>This dataset shows the extent of live tidal leases in UK waters.</p> <p>On 16 March 2010, the Crown Estate announced successful bidders for lease agreements for wave and tidal leases with a potential capacity of up to 1,200 MW in the Pentland Firth and Orkney waters. This followed a competitive leasing round for demonstration and commercial-scale project sites which saw considerable interest from industry.</p> <p>The Pentland Firth and Orkney waters is the first area to be made available for commercial-scale development of wave and tidal energy in Scotland and indeed the whole of the UK. The projects are believed to represent the largest planned development of wave and tidal energy worldwide. Positional corrections of Pentland Firth sites on 30 July 2010.</p> <p>For more information see the Crown Estate website: http://www.thecrownestate.co.uk/our_portfolio/marine/wave-tidal/pentland-firth-orkney-waters.htm</p> <p>ATTRIBUTES Leases attributed in the Lease_Type field as 'commercial' are part of Round 1 in Pentland Firth. Remaining areas attributed as 'demonstration' are live leases used for demonstration of technology purposes only.</p>	N/A	<p>Provided through the Crown Estate website. By downloading the data from this email you agree to the following terms & conditions We, The Crown Estate, grant you a non-exclusive non-transferable licence (without the right to sublicense) to copy and use the Data in accordance with the terms of this licence agreement. " You may only use the Data for your own internal business use. " You are permitted to download the Data to your local hard disk and/or reproduce it in hard copy outputs and static digital formats (e.g. pdf, TIFF, jpeg) " The Data must not be used in GIS applications (e.g. webGIS) that can be accessed from outside the licensee business or over an intra/internet " Digital copies of the Data must not be provided to third parties. "You acknowledge that the Data has not been prepared to meet your individual requirements. We do not provide any warranty or guarantee as to the accuracy, timeliness, performance, completeness or suitability of the Data for any particular purpose. You acknowledge that the Data may contain inaccuracies or errors and we expressly exclude liability for any such inaccuracies or errors to the fullest extent permitted by law. It is your responsibility to ensure that the Data is fit for your intended use. It is also your responsibility to ensure you obtain any updates to the Data made available from time to time from the Crown Estate website. We are under no obligation to provide or inform you of any updates. " You are responsible for installing the Data onto its own computer systems and for providing and maintaining the software necessary to use the Data including where applicable all licences to use such software. "The Data is subject to Crown copyright protection unless otherwise indicated. All copies of the Data in any form must contain the following acknowledgement: © Crown Copyright (year) "We reserve the right to terminate this licence at any time and if we do so, you will delete all copies of the Data in your possession or control. "Use of the Data and this agreement is governed by the laws of England and Wales.</p>	Data can be shared with NE, JNCC and Defra	Licence	As Needed	The Crown Estate email: data@thecrownestate.co.uk	Michelle Moore, The Crown Estate, Marine Spatial Planning Analyst, email: michelle.moore@thecrownestate.co.uk ; Alternative contact, Debra Frankiewicz, The Crown Estate, Marine Spatial Planning Analyst, Debra.Frankiewicz@thecrownestate.co.uk	The Crown Estate email: data@thecrownestate.co.uk
Net Gain	0	Historic Seascape Characterisation: Demonstrating the Method	2009 Sea Zone (English Heritage), Historic Seascape Characterisation: Demonstrating the Method	ESRI Shapefile	English Heritage	WGS 1984/UTM31N	<p>Historic Seascape Characterisation (HSC), undertaken for the English Heritage HSC programme, for the coastal and marine zones in north-east England from the Scottish Border down to Withersea, out to the edge of territorial waters.</p> <p>The characterisation is drawn from the interpretation of a broad range of coastal and marine digital and documentary sources, to define character polygons reflecting dominant human activities such as industry, navigation, leisure, infrastructure, settlement, as well as environmental and palaeoenvironmental features relating to human activities. The project GIS is designed to work alongside a series of text descriptions describing each historic seascape character type.</p>	N/A	None	Data can be shared with NE, JNCC and Defra	Licence	Not Planned	English Heritage	SeaZone, Red Lion House, Bentley, Hampshire, GU10 5HY, email: info@seazone.com , Tel.: +44 (0)870 013 0607; Dave Hooley, English Heritage, Dave.Hooley@english-heritage.org.uk	SeaZone, Red Lion House, Bentley, Hampshire, GU10 5HY, email: info@seazone.com , Tel.: +44 (0)870 013 0607

Net Gain	0	Wind power (pol)	ESRI Shapefile	ABPmer (on behalf of BERR)	WGS 1984/UTM31N	0	0	2008	12000	<p>Data Licence: THIS IS A LICENCE AGREEMENT BETWEEN THE DEPARTMENT OF BUSINESS, ENTERPRISE AND REGULATORY REFORM ("LICENSOR") AND YOU ("Licensee") YOU MUST READ AND ACCEPT ALL THE TERMS AND CONDITIONS SET OUT BELOW BEFORE YOU USE THE DATA. BY USING THE DATA, YOU (AN INDIVIDUAL OR LEGAL ENTITY) AGREE WITH THE LICENSOR TO BECOME THE LICENSEE TO THIS LICENCE AGREEMENT AND CONSENT TO BE BOUND BY ALL OF ITS TERMS. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS LICENCE AGREEMENT, DO NOT USE THE DATA.</p> <p>1. Grant of Licence. 1.1. 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Net Gain	0	UK offshore wind farm locations	2010 The Crown Estate, United Kingdom Offshore Wind Farm Areas	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	<p>These data represent all offshore wind farms in pre-planning, planning, construction and operational phases in United Kingdom waters. Leasing rounds 1, 2 and 3 are included along with round 1 and 2 extensions, Scottish exclusivity award applications and the current operating Blyth wind farm.</p> <p>Attribute data includes developer information, status, and area. All wind farms shown in these data have an exclusion buffer of 2.5km for any nearby future development.</p>	2010	2010	2010	<p>These data have been created by merging together wind farm data relating to leasing rounds 1, 2 and 3, Scottish exclusivity award agreements, round 1 and 2 extensions and the Blyth wind farm.</p> <p>The attributes in this dataset are as follows: Round – this shows which round of leasing the area comes under Name – this is the site name Tenant – this is the name of the company awarded this site Type – this is a status indication for the area. Round – type - This is similar to the Round information but provides more context.</p>	N/A	Provided through the Crown Estate website.	Data can be shared with NE, JNCC and Defra	Licence	Quarterly	email: data@thecrownestate.co.uk	email: data@thecrownestate.co.uk	email: data@thecrownestate.co.uk
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Net Gain	0	Docking Shoal cable corridor	2009, Centrica, Docking Shoal cable corridor	ESRI Shapefile	Centrica	WGS 1984/UTM31N	Docking Shoal cable corridor: amended application area as at August 2009.	0	0	40026	<p>v13 21 Nov 2007 – AH Landfall modifications. Saltmarsh section revised to tie into new landfall co-ordinates converted to UTM31N from OSNG using Grid InQuest 6.5. (Rnd2_CableLandfall_v02_ah071121_UTM31N). Co-ordinates agreed between RES (Chris Banks, Ed Frost, Jon Knight) and AMEC (AH, Glen Evertsen). Onshore portion removed, see latest onshore OSNG featureclass instead. ***** v12 22 October 2007 - LH As V11 but one area that was onshore (the northernmost part) changed to offshore to match up with Rnd2_CableTandC_v05_OS_rs0701. Additional changes added by AH 23/10/07 while checking. Split new section between onshore and old saltmarsh into the three wind farms and named as Saltmarsh section id. ***** v11 10 October 2007 – LH As V10 but one node removed (node 3 in Lincs Saltmarsh/Intertidal section as instructed by AH) ***** v10 21 Sept 2007 – AH Cable corridor split into relevant wind farm, and also relevant sections. Based on Rnd2_CableCdr_v09_DSOnly (there were some errors in the nodes which were corrected – very minor distances involved), and also used ...v07_RBOnly... for intertidal to offshore parts. There was a gap between DS and RB using these that was removed by splitting the difference using temporary sketch line as a guide. Same applies to RB and Lincs. The sections were split by cutting using the outer nodes. A complete check of all outer nodes (except onshore) was made and unnecessary nodes removed. PLANAPP field added by LH on AH instruction 24 Sept 2007. This field documents which wind farm planning application is relevant. Additional cut lines added to split away Lincs, and Race Bank. Cut line locations agreed with GE/ES/AH. ***** USED IN THE DOCKING SHOAL ES 2007 v9 070427 – RS as v8, but amended to accommodate the alteration in the onshore and saltmarsh sections of the cables. (change in onshore route for TCP application moved cable routes approx.. 20 m west and angle of routes from offshore to landing point across the saltmarsh). ***** v8 as v7, but amended to accommodate the alteration in the northern sections of the Race Bank cables, connecting to the proposed substation locations, where either two cables will each connect to two 250MW~ proposed substations OR where one cable will connect to two 125MW~ substations and two cables to one 250MW~. ***** v7 as v6 but saltmarsh onshore sections of cable amended to line up with onshore. ***** v6 as v5, but onshore sections of cable amended to line up with onshore Cable 310106 and to extend to substation. ***** v5 as v4... .. connected to the two 250MW~ proposed substations. Two cables connected to each. ***** v4 as v3... .. Docking Shoal cables connected to proposed substations, where two 125MW~ and one 250MW~ present. Two cables connected to the 250MW~ and one each to 125MW~ (EG/GE advised). ***** v3 as v2, but the northern sections are nudged 50 m east from dredging area. ***** v2 as v1all sections in the middle of the wash shaped round a small intertidal area. Northern section (not to Lincs) moved to fit within geophysics survey areas and to avoid the larger sections of more sensitive biological areas (orange in washbiota_amec_region). v1 Acts as a buffer around the cables through the wash. In the onshore and saltmarsh sections the corridor is 50 metres wide buffering the outer cables by 2.5 metres. In the intertidal section the corridor is 500 metres wide buffering the outer cables by 25 metres. In the offshore sections the corridor is 2500 metres wide buffering the outer cables by 125 metres.</p>	n/a	Copyright: AMEC, 2009. Data available on request.	Data can be released to the public domain	Copyright	As Needed	<p>Kit Hawkins, Centrica Renewable Energy Limited, 1st floor, Millstream East, Maidenhead Road, Windsor, Berkshire, SL4 5GD, Tel. 01753 494466, email: Kit.Hawkins@centrica.com</p> <p>Linda Heslop, AMEC, Software Specialist or Kit Hawkins, Centrica Renewable Energy Limited, 1st floor, Millstream East, Maidenhead Road, Windsor, Berkshire, SL4 5GD, Tel. 01753 494466, email: Kit.Hawkins@centrica.com</p>	Linda Heslop, AMEC, Software Specialist
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Net Gain	0	Race Bank cable corridor	2009 Centrica, Race Bank cable corridor	ESRI Shapefile	Centrica	WGS 1984/UTM31N	Race Bank cable corridor: amended application area as at August 2009.	0	0	40026	<p>v13 - 21 Nov 2007 - AH Landfall modifications. Saltmarsh section revised to tie into new landfall co-ordinates converted to UTM31N from OSNG using Grid InQuest 6.5. (Rnd2_CableLandfall_v02_ah071121_UTM31N). Co-ordinates agreed between RES (Chris Banks, Ed Frost, Jon Knight) and AMEC (AH, Glen Evertsen). Onshore portion removed, see latest onshore OSNG featureclass instead. ***** v12 - 22 October 2007 - LH As V11 but one area that was onshore (the northern most part) changed to offshore to match up with Rnd2_CableTandC_v05_OS_rs0701. Additional changes added by AH 23/10/07 while checking. Split new section between onshore and old saltmarsh into the three wind farms and named as Saltmarsh section id. ***** v11 - 10 October 2007 - LH As V10 but 1 node removed (node 3 in Lincs Saltmarsh/Intertidal section as instructed by AH) ***** v10 - 21//09/07 - AH Cable corridor split into relevant wind farm, and also relevant sections. Based on Rnd2_CableCdr_v09_DSOnly (there were some errors in the nodes which were corrected - very minor distances involved) , and also used ...v07_RBOnly... for intertidal to offshore parts. There was a gap between DS and RB using these that was removed by splitting the difference using temporary sketch line as a guide. Same applies to RB and Lincs. The sections were split by cutting using the outer nodes. A complete check of all outer nodes (except onshore) was made and unnecessary nodes removed. PLANAPP field added by LH on AH instruction 24/09/07. This field documents which wind farm planning application is relevant. Additional cut lines added to split away Lincs, and Race Bank. Cut line locations agreed with GE/ES/AH. ***** USED IN THE DOCKING SHOAL ES 2007 v9 - 070427 - RS as v8, but amended to accommodate the alteration in the onshore and saltmarsh sections of the cables. (change in onshore route for TCP application moved cable routes approx.. 20 m west and angle of routes from offshore to landing point across the saltmarsh). ***** v8 as v7, but amended to accommodate the alteration in the northern sections of the Race Bank cables, connecting to the proposed substation locations, where either two cables will each connect to two 250MW~ proposed substations OR where one cable will connect to two 125MW~ substations and two cables to one 250MW~. ***** v7 as v6 but saltmarsh onshore sections of cable amended to line up with onshore. ***** v6 As v5, but onshore sections of cable amended to line up with onshore Cable 310106 and to extend to substation. ***** v5 As v4... .. connected to the two 250MW~ proposed substations. Two cables connected to each. ***** v4 As v3... .. Docking Shoal cables connected to proposed substations, where two 125MW~ and one 250MW~ present. Two cables connected to the 250MW~ and one each to 125MW~ (EG/GE advised). ***** v3 As v2, but the northern sections are nudged 50 m east from dredging area. ***** v2 As v1all sections in the middle of the wash shaped round a small intertidal area. Northern section (not to Lincs) moved to fit within geophysics survey areas and to avoid the larger sections of more sensitive biological areas (orange in washbiota_amec_region). v1 Acts as a buffer around the cables through the wash. In the onshore and saltmarsh sections the corridor is 50 metres wide buffering the outer cables by 2.5 metres. In the intertidal section the corridor is 500 metres wide buffering the outer cables by 25 metres. In the offshore sections the corridor is 2500 metres wide buffering the outer cables by 125 metres.</p>	n/a	Copyright: AMEC, 2009. Data available on request.	Data can be released to the public domain	Copyright	As Needed	<p>Kit Hawkins, Centrica Renewable Energy Limited, 1st floor, Millstream East, Maidenhead Road, Windsor, Berkshire, SL4 5GD, Tel. 01753 494466, email: Kit.Hawkins@centrica.com</p> <p>Linda Heslop, AMEC, Software Specialist or Kit Hawkins, Centrica Renewable Energy Limited, 1st floor, Millstream East, Maidenhead Road, Windsor, Berkshire, SL4 5GD, Tel. 01753 494466, email: Kit.Hawkins@centrica.com</p>	Linda Heslop, AMEC, Software Specialist
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Net Gain	0	Cable corridor for East Anglia (v2)	0	ESRI Shapefile	ScottishPower Renewables / Vattenfall Wind Power Ltd	WGS 1984/UTM31N	Revised cable corridor for East Anglia ONE offshore wind farm development. This is the shapefile that was used for the Marine Conservation Zones recommendation process.	0	0	40630	Transformed from OS1936 to WGS 1984 datum, UTM Zone 31N projection.	n/a	Available on request. Copyright: ScottishPower Renewables / Vattenfall Wind Power Ltd	Data cannot be released	Restricted	As Needed	Rick Campbell, ScottishPower Renewables, 4th Floor Atlantic Quay, Glasgow, G2 8SP, email : RCampbell@ScottishPower.com, Tel: 01416140472	Rachel Smith, Vattenfall Wind Power Ltd, Bridge End, Hexham, Northumberland, NE46 4NU, email : Rachel.smith@vattenfall.com, Tel: 01434 611343	Rachel Smith, Vattenfall Wind Power Ltd, Bridge End, Hexham, Northumberland, NE46 4NU, email : Rachel.smith@vattenfall.com, Tel: 01434 611343
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Net Gain	0	Cable corridor for East Anglia (v6)	0	ESRI Shapefile	ScottishPower Renewables / Vattenfall Wind Power Ltd	WGS 1984/UTM31N	'Cable Corridor - Offshore Area of Search' for grid connection at Bramford.	0	0	40703	<p>v06 26 June 2011 – RS The area was refined based on the new information provided by METOC at Thursdays workshop ('EAOW1_CabRo_v02_110624rs_UTM31N' in S:\Technical\GIS\Sites\offshore\Round3\Rnd3_TECH_091214ah.gdb\Elec_UTM31N). The area is largely a product of a 1.5 km buffer (EAOW1_CabRo_v02_Buff500mx3) applied either side of these routes, the only exceptions being the following (please see '6115-715-PA-021_A_comments_v01_110627rs.JPG' in S:\Projects\6115 Round 3 Offshore\000 - GIS Layouts\Images); This area was a derivative of the first options identified by METOC, with a 1 km buffer applied. The buffer around the anchorage area was removed, pending further information from / discussion with Harwich harbour port authority. The area was increased to incorporate the northern route identified early in the process. A 1 nm buffer can still be applied to the Sledway anchorage point and a 1.3 km corridor still exists to the north. This area has been smoothed to avoid unnecessary kinks in the area of search. This area was maintained in order to maintain the maximum area given the complexities of crossing the Gabbard/Galoper cables. This area was included to accommodate the 500 m loss to the south due to the explosives dumping ground. *** The most shoreward section was clipped from the corner of Cork anchorage to the southerly extent of the onshore area of search (EAOW_OnCabCo_v05_110628rs_OSNG) to avoid Felixstowe. (Please note the jpeg does not reflect this change). At the landfall the area was clipped to the high water mark ('high_water_polyline.shp' in S:\Technical\GIS\GIS_Files\OS\OpenData\BoundaryLine\Boundary-Line Oct 2010\data) in order to match the onshore area of search. *** An extra 400m buffer (EAOW1_CabRo_v02_Buff1900m) was applied to the north and south of the area surrounding the explosive dumping ground in order to ensure a minimum corridor width of 3 km as requested by SG at SPR (please see 'RE Offshore area of search figures.txt' in S:\Technical\GIS\Sites\offshore\Round3\FromOthers\SPR\110628_CableComments). ***** v05 9 Jun 2011 - RS Areas amended as per RC's email / sketch (please see '20110608181223617.pdf' in S:\Technical\GIS\Sites\offshore\Round3\FromOthers\SPR\110608_RC_CableSketch). The area was based on 2 km wide corridor options provided by METOC (EAOW1_RealCabCoOpt_v01_110609rs_UTM31N). A 1 km buffer was applied to these corridors. All gaps within the northern and southern extents of these buffers were incorporated into the area of search. In the landward section of the area a 1nm mile buffer was applied to the unclassified anchorage point in the Sledway, as a precautionary measure. The area was clipped in the mid-sections to avoid the Piddock reef and to remove the explosive dumping ground. All areas extending beyond the 'Indicative cable corridor' (EAOW1_CabCoAol_v05_110331rs_UTM31N) were removed. ***** v04 31 May 2011 – RS Route amended to exclude the explosive dumping ground (as defined by SeaZone Hydrospatial data licence 082010.001 on the 31/05/11). The westerly shoreward section was narrowed to avoid the piddock reef (identified from the Complex_Habitats ("LowBiotope" = 'CR') shapefile in the Thames interpreted REC data 2009. The corridor was clipped to the most northern point of the piddock reef, rejoining the previous corridor extent to the east of the reef. To the eastern extent of the corridor the corridor was widened so the entire EAONE boundary was included. All the above was completed under rthe instruction of JD SPR. ***** v03 26 May 2011 – RS Route amended to incorporate corridors defined by METOC (S:\Technical\GIS\Sites\offshore\Round3\FromOthers\ME TOC\110525_EA1CabCo\Export_route_corridor_1km_Buff.shp). The northern and western sections have remained the same as they largely cover the same areas, and the intention at this stage is to maintain a broader area in which cable options can be identified. The eastern and southern sections have been widened to incorporate the extents of the corridors defined by METOC (please see above for referenced shapefile). ***** v02 - 11th April 2011- RS South-west portion of the route amended. The southern edge of the corridor was extended south east to</p>	n/a	Available on request. Copyright: ScottishPower Renewables / Vattenfall Wind Power Ltd.	Data cannot be released	Restricted	As Needed	Rick Campbell, ScottishPower Renewables, 4th Floor Atlantic Quay, Glasgow, G2 8SP, email : RCampbell@ScottishPower.com, Tel: 01416140472	Rachel Smith, Vattenfall Wind Power Ltd, Bridge End, Hexham, Northumberland, NE46 4NU, email : Rachel.smith@vattenfall.com, Tel: 01434 611343	Rachel Smith, Vattenfall Wind Power Ltd, Bridge End, Hexham, Northumberland, NE46 4NU, email : Rachel.smith@vattenfall.com, Tel: 01434 611343
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Net Gain	0	The Crown Estate Aquaculture data layer	0	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	This dataset identifies the spatial boundaries of current or historically approved aquaculture leases by the Crown Estate for fin fish or shellfish farms in English and Welsh waters. This dataset was obtained from the TCE England and Wales GIS (see 'Dataset history') Whilst every care has been taken to be as accurate as possible, the areas are indicative only.	0	0	2010	This dataset was derived from the Crown Estate's Agreement layer which contains information on the individual current, historic, expired and pending dealings relating to the foreshore of England and Wales. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the words 'Mussel' 'Shellfish' and 'Oyster'. Therefore it is possible that this dataset may contain data that is not relevant.	N/A	This dataset was derived from the Crown Estate's Agreement layer which contains information on the individual current, historic, expired and pending dealings relating to the foreshore of England and Wales. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the words 'Mussel' 'Shellfish' and 'Oyster'. Therefore it is possible that this dataset may contain data that is not relevant.	Data cannot be released	Restricted	As Needed	The Crown Estate	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269
Net Gain	0	Fishery Orders affecting Foreshore and Seabed owned by The Crown Estate	0	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	This dataset shows the boundaries of a range of active fishery orders in England and Wales. FISHERY ORDERS The public has a right to fish in tidal waters and to collect shellfish from the exposed foreshore, provided they have right of access. This right may be regulated by byelaw, but not extinguished. An exception is when this right has been severed from the public fishery by a Several or Regulating Order, which confers the right of fishing in a defined area to one body. Fishery orders are awarded by Defra in England, the Welsh Assembly Government in Wales and by the Scottish Executive in Scotland. There are three types of fishery orders: Several: The purpose of a Several Order is to encourage the establishment or improvement of a shellfishery. Several Order fisheries provide personal ownership of specified species within the area covered by the Order, and give the holder exclusive rights to fish, dredge or take, within a defined area, shellfish of a description to which the Order applies. Regulating: Regulating Orders are designed to improve the management of natural shellfisheries, and allow a wider range of controls to be made to regulate a public fishery. Regulating Orders confer upon holders the power to effect and enforce regulations and restrictions relative to the dredging, fishing or taking of any specified description of shellfish within a designated area. Although these Orders provide licensing provisions, under which unlicensed persons can be excluded from the fishery, Regulating Orders do not directly confer property rights. Hybrid Is an area incorporating both Several and Regulating Fishery Orders. DATASET STATUS This dataset is currently incomplete (only fisheries affecting Crown Estate seabed/foreshore were captured) and only includes 12 fishery orders in England, one for Wales and none for Scotland. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the words 'Protect' 'CP' and 'Groyne'. Therefore it is possible that this dataset may contain data that is not relevant. Whilst every care has been taken to be as accurate as possible, the areas are indicative only.	0	0	2010	This dataset was derived from the Crown Estate's Agreement layer which contains information on the individual current, historic, expired and pending dealings relating to the foreshore of England and Wales. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the words 'Fishery' 'Several' and 'Regulating'. Therefore it is possible that this dataset may contain data that is not relevant.	N/A	Data should already be with Defra. We, The Crown Estate, grant you a non-exclusive non-transferable licence (without the right to sublicense) to copy and use the Data in accordance with the terms of this licence agreement. You may only use the Data for your own internal business use. You are permitted to download the Data to your local hard disk and/or reproduce it in hard copy outputs and static digital formats (e.g. pdf, TIFF, jpeg). The Data must not be used in GIS applications (e.g. webGIS) that can be accessed from outside the licensee business or over an intra/internet. Digital copies of the Data must not be provided to third parties. You acknowledge that the Data has not been prepared to meet your individual requirements. We do not provide any warranty or guarantee as to the accuracy, timeliness, performance, completeness or suitability of the Data for any particular purpose. You acknowledge that the Data may contain inaccuracies or errors and we expressly exclude liability for any such inaccuracies or errors to the fullest extent permitted by law. It is your responsibility to ensure that the Data is fit for your intended use. It is also your responsibility to ensure you obtain any updates to the Data made available from time to time from the Crown Estate website. We are under no obligation to provide or inform you of any updates. You are responsible for installing the Data onto your own computer systems and for providing and maintaining the software necessary to use the Data including where applicable all licences to use such software. The Data is subject to Crown copyright protection unless otherwise indicated. All copies of the Data in any form must contain the following acknowledgement: © Crown Copyright (year) We reserve the right to terminate this licence at any time and, if we do so, you will delete all copies of the Data in your possession or control. Use of the Data and this agreement is governed by the laws of England and Wales.	Data cannot be released	Restricted	As Needed	The Crown Estate	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269

Net Gain	0	Other/Unclassified Activities relating to Crown Estate Foreshore	0	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	This dataset indicates current or historic sites leased to third parties along the coast of England and Wales by the Crown Estate and that do not fall under any of the other datasets within this geodatabase (TCE Activities). Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks the 'Type' attribute field for the word 'Lease'. Therefore it is possible that this dataset may contain data that is not relevant. Whilst every care has been taken to be as accurate as possible, the areas are indicative only.	0	0	2010	This dataset was derived from the Crown Estate's Agreement layer which contains information on the individual current, historic, expired and pending dealings relating to the foreshore of England and Wales. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks the 'Type' attribute field for the word 'Lease'. Therefore it is possible that this dataset may contain data that is not relevant.	N/A	We, The Crown Estate, grant you a non-exclusive non-transferable licence (without the right to sublicense) to copy and use the Data in accordance with the terms of this licence agreement. You may only use the Data for your own internal business use. You are permitted to download the Data to your local hard disk and/or reproduce it in hard copy outputs and static digital formats (e.g. pdf, TIFF, jpeg) The Data must not be used in GIS applications (e.g. webGIS) that can be accessed from outside the licensee business or over an intra/internet Digital copies of the Data must not be provided to third parties. You acknowledge that the Data has not been prepared to meet your individual requirements. We do not provide any warranty or guarantee as to the accuracy, timeliness, performance, completeness or suitability of the Data for any particular purpose. You acknowledge that the Data may contain inaccuracies or errors and we expressly exclude liability for any such inaccuracies or errors to the fullest extent permitted by law. It is your responsibility to ensure that the Data is fit for your intended use. It is also your responsibility to ensure you obtain any updates to the Data made available from time to time from The Crown Estate website. We are under no obligation to provide or inform you of any updates. You are responsible for installing the Data onto its own computer systems and for providing and maintaining the software necessary to use the Data including where applicable all licences to use such software. The Data is subject to Crown copyright protection unless otherwise indicated. All copies of the Data in any form must contain the following acknowledgement: © Crown Copyright (year) We reserve the right to terminate this licence at any time and if we do so, you will delete all copies of the Data in your possession or control. Use of the Data and this agreement is governed by the laws of England and Wales	Data cannot be released	Restricted	As Needed	The Crown Estate	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269
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Net Gain	0	Outfalls on the Crown Estate owned Foreshore and Seabed	0	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	This dataset indicates sites that are related to Outfalls along the coast of England and Wales where the Crown Estate has (had) ownership interests. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the word 'Outfall'. Therefore it is possible that this dataset may contain data that is not relevant. Whilst every care has been taken to be as accurate as possible, the areas are indicative only.	0	0	2010	This dataset was derived from The Crown Estate's Agreement layer which contains information on the individual current, historic, expired and pending dealings relating to the foreshore of England and Wales. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the word 'Outfall'. Therefore it is possible that this dataset may contain data that is not relevant.	N/A	We, The Crown Estate, grant you a non-exclusive non-transferable licence (without the right to sublicense) to copy and use the Data in accordance with the terms of this licence agreement. You may only use the Data for your own internal business use. You are permitted to download the Data to your local hard disk and/or reproduce it in hard copy outputs and static digital formats (e.g. pdf, TIFF, jpeg) The Data must not be used in GIS applications (e.g. webGIS) that can be accessed from outside the licensee business or over an intra/internet Digital copies of the Data must not be provided to third parties. You acknowledge that the Data has not been prepared to meet your individual requirements. We do not provide any warranty or guarantee as to the accuracy, timeliness, performance, completeness or suitability of the Data for any particular purpose. You acknowledge that the Data may contain inaccuracies or errors and we expressly exclude liability for any such inaccuracies or errors to the fullest extent permitted by law. It is your responsibility to ensure that the Data is fit for your intended use. It is also your responsibility to ensure you obtain any updates to the Data made available from time to time from The Crown Estate website. We are under no obligation to provide or inform you of any updates. You are responsible for installing the Data onto its own computer systems and for providing and maintaining the software necessary to use the Data including where applicable all licences to use such software. The Data is subject to Crown copyright protection unless otherwise indicated. All copies of the Data in any form must contain the following acknowledgement: © Crown Copyright (year) We reserve the right to terminate this licence at any time and if we do so, you will delete all copies of the Data in your possession or control. Use of the Data and this agreement is governed by the laws of England and Wales	Data cannot be released	Restricted	As Needed	The Crown Estate	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269
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Net Gain	0	Recreational Boating Related Crown Estate Dealings	2010 The Crown Estate, 'Recreational Boating' Related Crown Estate Dealings	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	<p>This dataset indicates sites that are related to recreational boating along the coast of England and Wales where the Crown Estate has (had) ownership interests. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the words 'pontoon' 'jetty' and 'mooring'. Therefore it is possible that this dataset may contain data that is not relevant. Whilst every care has been taken to be as accurate as possible, the areas are indicative only.</p>	2010	2010	2010	<p>This dataset was derived from the Crown Estate's Agreement layer which contains information on the individual current, historic, expired and pending dealings relating to the foreshore of England and Wales. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the words 'pontoon' 'jetty' and 'mooring'. Therefore it is possible that this dataset may contain data that is not relevant.</p>	N/A	<p>We, The Crown Estate, grant you a non-exclusive non-transferable licence (without the right to sublicense) to copy and use the Data in accordance with the terms of this licence agreement. You may only use the Data for your own internal business use. You are permitted to download the Data to your local hard disk and/or reproduce it in hard copy outputs and static digital formats (e.g. pdf, TIFF, jpeg) The Data must not be used in GIS applications (e.g. webGIS) that can be accessed from outside the licensee business or over an intra/internet Digital copies of the Data must not be provided to third parties. You acknowledge that the Data has not been prepared to meet your individual requirements. We do not provide any warranty or guarantee as to the accuracy, timeliness, performance, completeness or suitability of the Data for any particular purpose. You acknowledge that the Data may contain inaccuracies or errors and we expressly exclude liability for any such inaccuracies or errors to the fullest extent permitted by law. It is your responsibility to ensure that the Data is fit for your intended use. It is also your responsibility to ensure you obtain any updates to the Data made available from time to time from The Crown Estate website. We are under no obligation to provide or inform you of any updates. You are responsible for installing the Data onto its own computer systems and for providing and maintaining the software necessary to use the Data including where applicable all licences to use such software. The Data is subject to Crown copyright protection unless otherwise indicated. All copies of the Data in any form must contain the following acknowledgement: © Crown Copyright (year) We reserve the right to terminate this licence at any time and if we do so, you will delete all copies of the Data in your possession or control. Use of the Data and this agreement is governed by the laws of England and Wales</p>	Data can be shared with NE, JNCC and Defra	Restricted	As Needed	The Crown Estate	<p>Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269</p>	<p>Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269</p>
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Net Gain	0	Wildfowling Related Crown Estate Dealings	2010 The Crown Estate, 'Wildfowling' Related Crown Estate Dealings	ESRI Shapefile	The Crown Estate	WGS 1984/UTM31N	This dataset indicates sites that are related to wildfowling along the coast of England and Wales where the Crown Estate has (had) ownership interests. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks the 'Type' attribute field for the word 'Sporting Lease'. Therefore it is possible that this dataset may contain data that is not relevant. Whilst every care has been taken to be as accurate as possible, the areas are indicative only.	2010	2010	2010	This dataset was derived from the Crown Estate's Agreement layer which contains information on the individual current, historic, expired and pending dealings relating to the foreshore of England and Wales. Due to the fact that the source data is not properly classified a selection query was used to derive this dataset. The query checks all attribute fields for the words 'Protect' 'CP' and 'Groyne'. Therefore it is possible that this dataset may contain data that is not relevant.	N/A	We, The Crown Estate, grant you a non-exclusive non-transferable licence (without the right to sublicense) to copy and use the Data in accordance with the terms of this licence agreement. You may only use the Data for your own internal business use. You are permitted to download the Data to your local hard disk and/or reproduce it in hard copy outputs and static digital formats (e.g. pdf, TIFF, jpeg) The Data must not be used in GIS applications (e.g. webGIS) that can be accessed from outside the licensee business or over an intra/internet Digital copies of the Data must not be provided to third parties. You acknowledge that the Data has not been prepared to meet your individual requirements. We do not provide any warranty or guarantee as to the accuracy, timeliness, performance, completeness or suitability of the Data for any particular purpose. You acknowledge that the Data may contain inaccuracies or errors and we expressly exclude liability for any such inaccuracies or errors to the fullest extent permitted by law. It is your responsibility to ensure that the Data is fit for your intended use. It is also your responsibility to ensure you obtain any updates to the Data made available from time to time from The Crown Estate website. We are under no obligation to provide or inform you of any updates. You are responsible for installing the Data onto its own computer systems and for providing and maintaining the software necessary to use the Data including where applicable all licences to use such software. The Data is subject to Crown copyright protection unless otherwise indicated. All copies of the Data in any form must contain the following acknowledgement: © Crown Copyright (year) We reserve the right to terminate this licence at any time and if we do so, you will delete all copies of the Data in your possession	Data can be shared with NE, JNCC and Defra	Restricted	As Needed	The Crown Estate	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269	Sam White, The Crown Estate, 16 New Burlington Place, London, W1S 2HX, email: sam.white@thecrownestate.co.uk, Tel: 020 7851 5269
Net Gain	0	Flood defences and structures (line)	2011 Environment Agency, Flood defences and structures (line)	ESRI Shapefile	Environment Agency	WGS 1984/UTM31N	Merged flood and coastal defences and structures for areas: Lincolnshire and the Humber, the Wash, North Norfolk and Essex.	0	0	40647	Lincolnshire and the Humber, the Wash, North Norfolk and Essex regional datasets were merged into one shapefile and projected to UTM Zone 31N showing flood and coastal defences and structures in line format.	N/A	Available on request. Licence for the data use applies. Environment Agency has to be acknowledged.	MEDIN data must NOT be displayed. Data can be shared with NE and JNCC only	Licence	As Needed	Environment Agency	Katie Critchley, Anglian Environment and Performance Unit, Environment Agency, Anglian Environment and Performance Unit, Regional Strategy Unit, Kingfisher House, email : Katie.Critchley@environment-agency.gov.uk, Tel: 01733 464 045	Katie Critchley, Anglian Environment and Performance Unit, Environment Agency, Anglian Environment and Performance Unit, Regional Strategy Unit, Kingfisher House, email : Katie.Critchley@environment-agency.gov.uk, Tel: 01733 464 045
Net Gain	0	Flood defences and structures (point)	2011 Environment Agency, Flood defences and structures (point)	ESRI Shapefile	Environment Agency	WGS 1984/UTM31N	Merged flood and coastal defences and structures for areas: Lincolnshire and the Humber, the Wash and North Norfolk.	0	0	40647	Lincolnshire and the Humber, the Wash and North Norfolk regional datasets were merged into one shapefile and projected to UTM Zone 31N showing flood and coastal defences and structures as point data.	N/A	Available on request. Licence for the data use applies. Environment Agency has to be acknowledged.	MEDIN data must NOT be displayed. Data can be shared with NE and JNCC only	Licence	As Needed	Environment Agency	Katie Critchley, Anglian Environment and Performance Unit, Environment Agency, Anglian Environment and Performance Unit, Regional Strategy Unit, Kingfisher House, email : Katie.Critchley@environment-agency.gov.uk, Tel: 01733 464 045	Katie Critchley, Anglian Environment and Performance Unit, Environment Agency, Anglian Environment and Performance Unit, Regional Strategy Unit, Kingfisher House, email : Katie.Critchley@environment-agency.gov.uk, Tel: 01733 464 045

Net Gain	0	ABP port activity (lines)	2011 Port of Lowestoft, Associated British Ports Activity (line)	ESRI Shapefile	Port of Lowestoft	WGS 1984/UTM31N	Approach channels in The Wash and East Coast harbour area.	0	0	40569	Data was digitised in ERTS89 from UKHO charts containing data mapped by ABP during its meeting with Tammy Stamford. Data was clipped to the Net Gain project boundary and reprojected into UTM31N. N.B. RMS error when digitising exceeded the preferred threshold of 0.004 inches on some occasions. This has been digitised on a per polygon basis within the shapefile.	N/A	Acknowledge the Port of Lowestoft.	Data can be released into public domain	copyright	As Needed	Port of Lowestoft	Port of Lowestoft	Port of Lowestoft
Net Gain	0	Harbours (point)	2011 Port of Lowestoft, Associated British Ports, Harbours (point)	ESRI Shapefile	Port of Lowestoft	WGS 1984/UTM31N	Harbours in the Wash and East Coast area.	0	0	40569	Data was digitised in ERTS89 from UKHO charts containing data mapped by ABP during its meeting with Tammy Stamford. Data was clipped to the Net Gain project boundary and reprojected into UTM31N. N.B. RMS error when digitising exceeded the preferred threshold of 0.004 inches on some occasions. This has been digitised on a per polygon basis within the shapefile.	N/A	Acknowledge the Port of Lowestoft.	Data can be released into public domain	copyright	As Needed	Port of Lowestoft	Port of Lowestoft	Port of Lowestoft
Net Gain	0	Harbour activities (polygon)	2011 Port of Lowestoft, Associated British Ports, Harbour activities (polygon)	ESRI Shapefile	Port of Lowestoft	WGS 1984/UTM31N	Anchorage, dredging areas, seafloor scours, spoil grounds, statutory harbour areas in the Wash and East Coast.	0	0	40569	Data was digitised in ERTS89 from UKHO charts containing data mapped by ABP during their meeting with Tammy Stamford. Data was clipped to the Net Gain project boundary and reprojected into UTM31N. N.B. RMS error when digitising exceeded the preferred threshold of 0.004 inches on some occasions. This has been digitised on a per polygon basis within the shapefile.	N/A	Acknowledge the Port of Lowestoft.	Data can be released into public domain	copyright	As Needed	Port of Lowestoft	Port of Lowestoft	Port of Lowestoft
Net Gain	0	<i>Sabellaria spinulosa</i> sp Cefas	0	ESRI Shapefile	ipdf-Regional Project ipdf, data from Cefas	WGS 1984/UTM31N	Records of <i>Sabellaria spinulosa</i> occurrences from grabs (0.1m2) and beam trawls (2m x length of tow) from between 1995 and 2005, originally provided in WGS 1984. Abundance = number of individuals recorded	1995	2005	0	Records of <i>Sabellaria spinulosa</i> occurrences from grabs (0.1m2) and beam trawls (2m x length of tow) from between 1995 and 2005, originally provided in WGS 1984.	N/A	The information was provided by and should be acknowledged to Cefas. For further information contact Jacqueline Eggleton [email: jacqueline.eggleton@cef.co.uk].	0	0	0	0	0	The information was provided by and should be acknowledged to Cefas. For further information contact Jacqueline Eggleton email: jacqueline.eggleton@cef.co.uk. Address: Cefas, Pakefield Road, Lowestoft, Suffolk, NR33 0HT. Tel: 01502 562244

Region	MCZ site name/s related to	Data Title	MEDIN Title	Format	Source	Projection/Spatial Reference System	Abstract	Date Start	Date End	Date Published	Lineage Information on Data Quality, sources of data, processing steps and other background information	Spatial Resolution (m)	Limitations on public access	Data restrictions	Conditions for access and use constraints	Frequency of Update	Who is responsible for maintenance of the dataset? (Contact Name, Organisation, Address, Phone No)	Who created the metadata or can be contacted about the metadata of the dataset? (Contact Name, Organisation, Address, Phone No)	Who created the dataset? (Contact Name, Organisation, Address, Phone No)
BS	0	Native Oyster	1975 - 2010 Kent Wildlife Trust, Native oyster <i>Ostrea edulis</i>	Geographic Information System	Kent Wildlife Trust	WGS84	Data were extracted from various surveys including Kent Shoresearch, Seasearch by Bryony Chapman at Kent Wildlife Trust. Data has been taken from surveys undertaken between 1975 and 2010.	27454	40265	Data were extracted from various surveys including Kent Shoresearch, Seasearch by Bryony Chapman at Kent Wildlife Trust.	Data were extracted from various surveys including Kent Shoresearch, Seasearch by Bryony Chapman at Kent Wildlife Trust.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Native Oyster	1976 - 2010 Kent Wildlife Trust, Native oyster <i>Ostrea edulis</i>	Geographic Information System	Kent Wildlife Trust	WGS85	Data were extracted from various surveys including Kent Shoresearch, Seasearch by Bryony Chapman at Kent Wildlife Trust. Data has been taken from surveys undertaken between 1975 and 2010.	27455	40266	Data were extracted from various surveys including Kent Shoresearch, Seasearch by Bryony Chapman at Kent Wildlife Trust.	Data were extracted from various surveys including Kent Shoresearch, Seasearch by Bryony Chapman at Kent Wildlife Trust.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Common Smelt	1974–2010 Environment Agency, Highly Mobile Species FOCI Smelt (<i>Osmerus eperlanus</i>)	Geographic Information System	Environment Agency	WGS84	Data extracted from the EA database compiled by Ian Humpheryes. Used as data to define the presence of mobile species FOCI. Data originally supplied in XY format in TraC_Raw_Abundance_For_Selected_Estuary(1) spreadsheet and converted to shapefile points by Balanced Seas team, for species of interest. Spreadsheet has been included in folder.	27348	40463	40463	Data extracted from the Environment Agency database compiled by Ian Humpheryes (EA). Used as data to define the presence of mobile species FOCI.	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Unknown	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email: Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email: Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email: Ian.Humpheryes@Environment-Agency.gov.uk
BS	0	Native Oyster	Eastern Inshore Fisheries and Conservation Authority, Native oyster (<i>Ostrea edulis</i>) Holbrook Bay (Survey 1)	Geographic Information System	Eastern Inshore Fisheries and Conservation Authority	WGS84	Data extracted from the EA database compiled by Ian Humpheryes. Used as data to define the presence of mobile species FOCI. Data originally supplied in XY format in TraC_Raw_Abundance_For_Selected_Estuary(1) spreadsheet and converted to shapefile points by Balanced Seas team, for species of interest. Spreadsheet has been included in folder.	Unknown	Unknown	0	Distribution and density of Native oysters in Holbrook Bay, River Stour (Suffolk/Essex border), surveyed by ESFJC in March 2010. Sent to Balanced Seas by Judith Stout, Eastern IFCA.	Unknown	Restrictions to public access unknown. Check with data originator – Eastern IFCA.	0	Unknown	Unknown	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstout@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstout@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstout@eastern-ifca.gov.uk

BS	0	Native Oyster	Eastern Inshore Fisheries and Conservation Authority, Native oyster (<i>Ostrea edulis</i>) Holbrook Bay (Survey 2)	Geographic Information System	Eastern Inshore Fisheries and Conservation Authority	WGS84	Distribution and density of Native oysters in Holbrook Bay, River Stour (Suffolk/Essex border), surveyed by Eastern Inshore Fisheries and Conservation Authority in March 2010. Sent to Balanced Seas by Judith Stout, Eastern IFCA.	Unknown	Unknown	0	Distribution and density of Native oysters in Holbrook Bay, River Stour (Suffolk/Essex border), surveyed by ESFJC in March 2010. Sent to Balanced Seas by Judith Stout, Eastern IFCA.	Unknown	Restrictions to public access unknown. Check with data originator – Eastern IFCA.	0	Unknown	Unknown	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321 judithstoutt@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk
BS	0	Native Oyster	Eastern Inshore Fisheries and Conservation Authority, Native oyster (<i>Ostrea edulis</i>) Holbrook Bay (Survey 3)	Geographic Information System	Eastern Inshore Fisheries and Conservation Authority	WGS84	Distribution and density of Native oysters in Holbrook Bay, River Stour (Suffolk/Essex border), surveyed by Eastern Inshore Fisheries and Conservation Authority in March 2010. Sent to Balanced Seas by Judith Stout, Eastern IFCA.	Unknown	Unknown	0	Distribution and density of Native oysters in Holbrook Bay, River Stour (Suffolk/Essex border), surveyed by ESFJC in March 2010. Sent to Balanced Seas by Judith Stout, Eastern IFCA.	Unknown	Restrictions to public access unknown. Check with data originator – Eastern IFCA.	0	Unknown	Unknown	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk
BS	0	Native Oyster	Eastern Inshore Fisheries and Conservation Authority, Native oyster (<i>Ostrea edulis</i>) Holbrook Bay (Survey 4)	Geographic Information System	Eastern Inshore Fisheries and Conservation Authority	WGS84	Distribution and density of Native oysters in Holbrook Bay, River Stour (Suffolk/Essex border), surveyed by Eastern Inshore Fisheries and Conservation Authority in March 2010. Sent to Balanced Seas by Judith Stout, Eastern IFCA.	Unknown	Unknown	0	Distribution and density of Native oysters in Holbrook Bay, River Stour (Suffolk/Essex border), surveyed by ESFJC in March 2010. Sent to Balanced Seas by Judith Stout, Eastern IFCA.	Unknown	Restrictions to public access unknown. Check with data originator – Eastern IFCA.	0	Unknown	Unknown	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk
BS	0	Native Oyster	Eastern Inshore Fisheries and Conservation Authority, Native oyster (<i>Ostrea edulis</i>) Holbrook Bay (Survey 5).	Geographic Information System	Eastern Inshore Fisheries and Conservation Authority	WGS84	Distribution and density of Native oysters in Holbrook Bay, River Stour (Suffolk/Essex border), surveyed by Eastern Inshore Fisheries and Conservation Authority in March 2010. Sent to Balanced Seas by Judith Stout, Eastern IFCA.	Unknown	Unknown	0	Distribution and density of Native oysters in Holbrook Bay, River Stour (Suffolk/Essex border), surveyed by ESFJC in March 2010. Sent to Balanced Seas by Judith Stout, Eastern IFCA.	Unknown	Restrictions to public access unknown. Check with data originator - Eastern IFCA.	0	Unknown	Unknown	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk	Judith Stout Marine Environment Officer Eastern Inshore Fisheries and Conservation Authority 6 North Lynn Business Village Bergen Way Kings Lynn Norfolk PE30 2JG 01553 775321, email: judithstoutt@eastern-ifca.gov.uk
BS	0	<i>Cerianthus lloydii</i>	2006–2009 Kent Seasearch Sublittoral Survey (Kent Wildlife Trust) Southeast Feature <i>Cerianthus lloydii</i> .	Geographic Information System	Kent Wildlife Trust	WGS84	Produced as a result of discussions at Sussex data meeting, NE Kent coastal meeting, KWT, environmental organisations meeting in London. Seasearch surveys National Marine Recorder.	38976	40029	0	Produced as a result of discussions at Sussex data meeting, NE Kent coastal meeting, KWT, environmental organisations meeting in London. Seasearch surveys National Marine Recorder.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk

BS	0	Pentapora foliacea	2004–2010 Kent Wildlife Trust and Kent Seasearch, Southeast Feature <i>Pentapora foliacea</i>	Geographic Information System	Kent Wildlife Trust	WGS84	Produced as a result of discussions at Sussex data meeting, NE Kent coastal meeting, KWT, environmental organisations meeting in London. Seasearch surveys National Marine Recorder.	38192	40383	0	Produced as a result of discussions at Sussex data meeting, NE Kent coastal meeting, KWT, environmental organisations meeting in London. Seasearch surveys National Marine Recorder.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Stalked jellyfish	2010 Kent Seasearch (Kent Wildlife Trust) Southeast Feature Stalked jellyfish (<i>Craterolophus convolvulus</i>)	Geographic Information System	Kent Wildlife Trust	WGS84	Species identified by KWT and other partners from SEEBF as regionally rare or important. Data extracted from the KWT Marine Recorder snapshot by Bryony Chapman.	40403	40403	0	Species identified by KWT and other partners from SEEBF as regionally rare or important. Data extracted from the KWT Marine Recorder snapshot by Bryony Chapman.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Spoon worms	1997–2010 Kent Wildlife Trust, Southeast Feature Spoon worms <i>M. Lankesteri</i>	Geographic Information System	Kent Wildlife Trust	WGS84	Data extracted from the EA database compiled by Ian Humpheryes to show that the presence of this biotope (burrowing spoonworms and <i>Maxmuelleri lankesteri</i> on mud) which was accepted by JNCC as part of the Habitat FOCI definition 'seapens and burrowing megafauna'.	35671	40438	0	Data extracted from the EA database compiled by Ian Humpheryes to show that the presence of this biotope (burrowing spoonworms and <i>Maxmuelleri lankesteri</i> on mud) which was accepted by JNCC as part of the Habitat FOCI definition 'seapens and burrowing megafauna.'	Unknown	No restrictions to public access.	0	No conditions	Unknown	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling Kent, ME13 5SH 01732 22 3286, email: Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling Kent, ME13 5SH 01732 22 3286, email: Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling Kent, ME13 5SH 01732 22 3286, email: Ian.Humpheryes@Environment-Agency.gov.uk
BS	0	Lagoon Spire Snail	Hampshire and Isle of Wight Wildlife Trust, Southeast Feature Lagoon Spire Snail	Geographic Information System	Hampshire and Isle of Wight Wildlife Trust	WGS85	Provided by Hampshire and Isle of Wight Wildlife Trust.	Autumn 2009	Autumn 2009	Autumn 2009	Provided by Hampshire and Isle of Wight Wildlife Trust.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk
BS	0	2009 Sabellaria reef on mud (FOCI)	2009 Environment Agency, <i>Sabellaria</i> reef on mud.	Geographic Information System	Hampshire and Isle of Wight Wildlife Trust	WGS85	Data extracted from the EA database compiled by Ian Humpheryes. Used as data to define the presence of mobile species FOCI. Data originally supplied in XY format in TraC_Raw_Abundance_For_Selected_Estuary(1) spreadsheet and converted to shapefile points by Balanced Seas team, for species of interest. Spreadsheet has been included in folder.	37043	37043	Autumn 2009	Data extracted from the Environment Agency database compiled by Ian Humpheryes (EA). Used as data to define the presence of mobile species FOCI.	Unknown	No restrictions to public access.	0	No conditions	Unknown	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling Kent, ME13 5SH 01732 22 3286, email: Ian.Humpheryes@Environment-Agency.gov.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk
BS	0	Seals	Hampshire and Isle of Wight Wildlife Trust, Southeast Feature Seal GPS dataset 1	Geographic Information System	Hampshire and Isle of Wight Wildlife Trust	WGS85	Provided by Hampshire and Isle of Wight Wildlife Trust.	39891	40037	0	Provided by Hampshire and Isle of Wight Wildlife Trust.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk
BS	0	Seals	Hampshire and Isle of Wight Wildlife Trust, Southeast Feature Seal GPS dataset 2	Geographic Information System	Hampshire and Isle of Wight Wildlife Trust	WGS85	Provided by Hampshire and Isle of Wight Wildlife Trust.	39890	39961	0	Provided by Hampshire and Isle of Wight Wildlife Trust.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk

BS	0	Seals	Hampshire and Isle of Wight Wildlife Trust, Southeast Feature Seal GPS dataset 3	Geographic Information System	Hampshire and Isle of Wight Wildlife Trust	WGS85	Provided by Hampshire and Isle of Wight Wildlife Trust.	39891	40016	0	Provided by Hampshire and Isle of Wight Wildlife Trust.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk
BS	0	Seals	Hampshire and Isle of Wight Wildlife Trust, Southeast Feature Seal GPS dataset 4	Geographic Information System	Hampshire and Isle of Wight Wildlife Trust	WGS85	Provided by Hampshire and Isle of Wight Wildlife Trust.	39891	39982	0	Provided by Hampshire and Isle of Wight Wildlife Trust.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk
BS	0	Seals	Hampshire and Isle of Wight Wildlife Trust, Southeast Feature Seal GPS dataset 5	Geographic Information System	Hampshire and Isle of Wight Wildlife Trust	WGS85	Provided by Hampshire and Isle of Wight Wildlife Trust.	39893	40006	0	Provided by Hampshire and Isle of Wight Wildlife Trust.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email: JolyonC@hwt.org.uk
BS	0	Mantis shrimp	1904 - 2007 Various surveys, Southeast Feature Mantis Shrimp	Unknown	Unknown	Unknown	Unknown	00/00/1904	39098	0	Unknown	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Unknown	Unknown	Unknown
BS	0	Important Plant Area	Kent Wildlife Trust, Important Plant Area	Geographic Information System	Kent Wildlife Trust	WGS84	Shapefile produced by Balanced Seas from the IPA lat/long co-ordinates provided to us by KWT.	Unknown	Unknown	0	shapefile produced by Balanced Seas from the IPA lat/long co-ordinates provided to us by KWT.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Estuarine rocky habitats	2005. Solent Intertidal Survey. Report to Natural England, Lyndhurst (Data provided by Kent Wildlife Trust) Estuarine rocky habitats	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	00/00/2005	0	0	data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Blue mussel beds (including intertidal <i>mytilus edulis</i>)	2003–2009 Kent Seasearch Survey (Kent Wildlife Trust) Subtidal Blue mussel beds	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	37800	39991	40575	data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012 Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, email: Bryony.Chapman@kentwildlife.org.uk

BS	0	Blue mussel beds (including intertidal <i>mytilus edulis</i>)	2004–2009 Kent Seasearch Survey (Kent Wildlife Trust) Intertidal Blue mussel beds	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	40575	40575	40575	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012 Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Blue mussel beds (including intertidal <i>mytilus edulis</i>)	Unicomarine via Harwich Haven Authority, Blue mussel beds (including intertidal blue mussel beds)	Geographic Information System	Unicomarine - via Harwich Haven Authority	WGS84	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back.	2003	0	0	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority http://www.hha.co.uk/
BS	0	Estuarine rocky habitats	Unicomarine via Harwich Haven Authority, Estuarine rocky habitats	Geographic Information System	Unicomarine - via Harwich Haven Authority	WGS84	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back.	2003	0	0	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority http://www.hha.co.uk/
BS	0	Intertidal underboulder communities	Kent Wildlife Trust, Intertidal underboulder communities	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	40200	0	0	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Peat and clay exposures	Kent Wildlife Trust, Peat and clay exposures	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	40575	0	40575	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Peat and clay exposures	Unicomarine via Harwich Haven Authority, Peat and clay exposures	Geographic Information System	Unicomarine - via Harwich Haven Authority	WGS84	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back.	2003	0	0	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority http://www.hha.co.uk/
BS	0	<i>Sabellaria spinulosa</i> reef	Kent Wildlife Trust, <i>Sabellaria spinulosa</i> reefs	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	40575	0	40575	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	<i>Sabellaria spinulosa</i> reef	Unicomarine via Harwich Haven Authority, <i>Sabellaria spinulosa</i> reefs	Geographic Information System	Unicomarine - via Harwich Haven Authority	WGS84	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back	2003	0	0	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority http://www.hha.co.uk/

BS	0	Sheltered muddy gravels	Kent Wildlife Trust, Sheltered muddy gravels	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	40575	0	40575	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	subtidal chalk	Kent Wildlife Trust, Subtidal chalk	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	40575	0	40575	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Subtidal sands and gravels	Kent Wildlife Trust, Subtidal sands and gravels	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	40575	0	40575	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Subtidal sands and gravels	Unicomarine via Harwich Haven Authority, Subtidal sands and gravels	Geographic Information System	Unicomarine - via Harwich Haven Authority	WGS84	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back	2003	0	0	Data provided to Balanced Seas via Harwich Haven Authority. Superseded once these biotopes had been translated by JNCC into appropriate EUNIS L3 habitats and habitat FOCI and were sent back	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority http://www.hha.co.uk/	John Brien, Harwich Haven Authority
BS	0	subtidal chalk	Kent Wildlife Trust, Subtidal chalk	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	0	0	0	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Blue mussel beds	Kent Wildlife Trust, Blue mussel beds	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	0	0	0	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk
BS	0	Blue mussel beds	Kent Wildlife Trust, Blue mussel beds	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	0	0	0	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk

BS	0	Blue mussel beds	Kent Wildlife Trust, Blue mussel beds	Geographic Information System	Kent Wildlife Trust	WGS84	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	0	0	0	Data sent through from Bryony Chapman from KWT following discussion with JNCC (Beth Stoker) to define criteria necessary for Habitat FOCI	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk, Point of Contact	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk Point of Contact	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email: Bryony.Chapman@kentwildlife.org.uk Point of Contact
BS	0	Seagrass beds	1995 Hampshire and Isle of Wight Wildlife Trust, Seagrass beds	Geographic Information System	Hampshire and Isle of Wight Wildlife Trust	WGS84	Provided by Hampshire and Isle of Wight Wildlife Trust	0	0	0	Provided by Hampshire and Isle of Wight Wildlife Trust	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk
BS	0	Peacock's Tail	er JH Herbert (2010), PadinaArea. Distribution of the marine alga <i>Padina pavonica</i> on the Isle of Wight. Medina Valley Centre, Newport, Isle of Wight. Unpublished Material.	Geographic Information System	Medina Valley Centre	British National Grid	Data provided by Roger Herbert of the Isle of Wight Natural History Society.	0	0	0	Data provided by Roger Herbert of the Isle of Wight Natural History Society.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Dr Roger Herbert Medina Valley Centre Ecologist Medina Valley Centre Fairlee Road Newport Dodnor Lane Newport, Isle of Wight PO30 5TE 01983 522195 (voice) , email roger@medinavalleycentre.org.uk (Cc) rherbert@bournemouth.ac.uk	Dr Roger Herbert Medina Valley Centre Ecologist Medina Valley Centre Fairlee Road Newport Dodnor Lane Newport, Isle of Wight PO30 5TE 01983 522195 (voice) , email roger@medinavalleycentre.org.uk (Cc) rherbert@bournemouth.ac.uk	Dr Roger Herbert Medina Valley Centre Ecologist Medina Valley Centre Fairlee Road Newport Dodnor Lane Newport, Isle of Wight PO30 5TE 01983 522195 (voice) , email roger@medinavalleycentre.org.uk (Cc) rherbert@bournemouth.ac.uk
BS	0	Peacock's Tail	er JH Herbert (2010), PadinaArea. Distribution of the marine alga <i>Padina pavonica</i> on the Isle of Wight. Medina Valley Centre, Newport, Isle of Wight. Unpublished Material.	Geographic Information System	Medina Valley Centre	British National Grid	Data provided by Roger Herbert of the Isle of Wight Natural History Society.	0	0	0	Data provided by Roger Herbert of the Isle of Wight Natural History Society.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Dr Roger Herbert Medina Valley Centre Ecologist Medina Valley Centre Fairlee Rd Newport Dodnor Lane Newport, Isle of Wight PO30 5TE 01983 522195 (voice) , email roger@medinavalleycentre.org.uk (Cc) rherbert@bournemouth.ac.uk	Dr Roger Herbert Medina Valley Centre Ecologist Medina Valley Centre Fairlee Rd Newport Dodnor Lane Newport, Isle of Wight PO30 5TE 01983 522195 (voice) , email roger@medinavalleycentre.org.uk (Cc) rherbert@bournemouth.ac.uk	Dr Roger Herbert Medina Valley Centre Ecologist Medina Valley Centre Fairlee Rd Newport Dodnor Lane Newport, Isle of Wight PO30 5TE 01983 522195 (voice) , email roger@medinavalleycentre.org.uk (Cc) rherbert@bournemouth.ac.uk
BS	0	grab samples	1999–2008 Environment Agency, Grab samples Richest 10% of samples	Geographic Information System	Environment Agency	WGS84	Environment Agency database (compiled by Ian Humpheryes) contained species richness for all grab samples. The samples containing the top 25% richest species number were extracted and used to support the similar biodiversity data provided by national contract.	36161	39448	39448	Environment Agency database (compiled by Ian Humpheryes) contained species richness for all grab samples. The samples containing the top 25% richest species number were extracted and used to support the similar biodiversity data provided by national contract.	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Unknown	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286 Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286 Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286 Ian.Humpheryes@Environment-Agency.gov.uk

BS	0	Sabellaria alveolata reef	2001 Environment Agency, Sabellaria alveolata reef	Geographic Information System	Environment Agency	WGS84	Appropriate biotope codes to demonstrate the presence of Sab Alveolata Habitat FOCI were extracted out of the EA database (compiled by Ian Humpheryes)	36892	37256	2011-05-04	Appropriate biotope codes to demonstrate the presence of Sab Alveolata Habitat FOCI were extracted out of the EA database (compiled by Ian Humpheryes)	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Unknown	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk
BS	0	Sabellaria alveolata reef	2001 Environment Agency, Sabellaria alveolata reef (buffered)	Geographic Information System	Environment Agency	WGS84	Appropriate biotope codes to demonstrate the presence of Sab Alveolata Habitat FOCI were extracted out of the EA database (compiled by Ian Humpheryes). Records were buffered by Balanced Seas.	36892	37256	2011-05-04	Appropriate biotope codes to demonstrate the presence of Sab Alveolata Habitat FOCI were extracted out of the EA database (compiled by Ian Humpheryes). Records were buffered by Balanced Seas.	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Unknown	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk
BS	0	Core samples	1901 - 2008 Environment Agency, Core samples diversity	Geographic Information System	Environment Agency	WGS84	Environment Agency database (compiled by Ian Humpheryes) contained species richness for all grab samples. The samples containing the top 25% richest species number were extracted and used to support the similar biodiversity data provided by national contract.	367	39582	2011-05-04	Environment Agency database (compiled by Ian Humpheryes) contained species richness for all grab samples. The samples containing the top 25% richest species number were extracted and used to support the similar biodiversity data provided by national contract.	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Unknown	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk
BS	0	Broad-scale habitat	1983 - 2009 Environment Agency, Biotope data	Geographic Information System	Environment Agency	WGS84	Total extract of records from EA database (compiled by Ian Humpheryes). Superseded by All_Biotope_Final.shp. Ian Humphries biotope data collated by him from various sources	30317	39814	2011-04-18	Total extract of records from EA database (compiled by Ian Humpheryes). Superseded by All_Biotope_Final.shp	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Unknown	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk
BS	0	Broad-scale habitat	1983 - 2009 Environment Agency, Biotope data	Geographic Information System	Environment Agency	WGS84	Total extract of records from EA database (compiled by Ian Humpheryes). Used by Balanced Seas to extract biodiversity richness areas.	30317	39814	2011-05-04	Total extract of records from EA database (compiled by Ian Humpheryes). Used by Balanced Seas to extract biodiversity richness areas.	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Unknown	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk	Ian Humpheryes Senior Environmental Monitoring Officer Environment Agency, Kent & South London Area Orchard House, London Road, Addington Nr. West Malling, Kent, ME13 5SH 01732 22 3286, email Ian.Humpheryes@Environment-Agency.gov.uk
BS	0	RSPB	Royal Society for the Protection of Birds, Bird Foraging Overlap count	Geographic Information System	RSPB SE + Balanced Seas	WGS84	Data provided by RSPB and analysed by Balanced Seas. Data outdated by the national pelagic diversity layer created by the Wildlife Trusts.	0	0	0	Data provided by RSPB and analysed by Balanced Seas. Data outdated by the national pelagic diversity layer created by the Wildlife Trusts.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Fay Bouri Conservation Officer Royal Society for the Protection of Birds Southeast Regional Office 2nd Floor Frederick House 42 Frederick Place Brighton BN1 4EA 01273 763606, email fay.bouri@rspb.org.uk	Fay Bouri Conservation Officer Royal Society for the Protection of Birds Southeast Regional Office 2nd Floor Frederick House 42 Frederick Place Brighton BN1 4EA 01273 763606, email fay.bouri@rspb.org.uk

BS	0	RSPB	Royal Society for the Protection of Birds, Kittiwake Preferred Habitat Range	Geographic Information System	Royal Society for the Protection of Birds	WGS84	Data provided by RSPB (Fay Bouri) and analysed by Balanced Seas. Data used, but then superseded by the national pelagic diversity layer created by the Wildlife Trusts, which incorporated this and other data layers	0	0	0	Data provided by RSPB (Fay Bouri) and analysed by Balanced Seas. Data used, but then superseded by the national pelagic diversity layer created by the Wildlife Trusts, which incorporated this and other data layers	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Fay Bouri Conservation Officer Royal Society for the Protection of Birds Southeast Regional Office 2nd Floor Frederick House 42 Frederick Place Brighton BN1 4EA 01273 763606, email fay.bouri@rspb.org.uk	Fay Bouri Conservation Officer Royal Society for the Protection of Birds Southeast Regional Office 2nd Floor Frederick House 42 Frederick Place Brighton BN1 4EA 01273 763606, email fay.bouri@rspb.org.uk	Fay Bouri Conservation Officer Royal Society for the Protection of Birds Southeast Regional Office 2nd Floor Frederick House 42 Frederick Place Brighton BN1 4EA 01273 763606, email fay.bouri@rspb.org.uk
BS	0	Seasearch	SNCI_Marine.shp Marine_Sites_of_Nature_Conservation_Importance	Geographic Information System	Sussex Seasearch	British National Grid	Datapoints mapped by Balanced seas from the lat/long co-ordinates provided in the Sussex Seasearch literature	0	0	0	Datapoints mapped by Balanced seas from the lat/long co-ordinates provided in the Sussex Seasearch literature	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Chris Williams Sussex Seasearch/ Natural England Tel: 0300 060 0324, email Christian.Williams@naturale ngland.org.uk	Chris Williams Sussex Seasearch/ Natural England Tel: 0300 060 0324, email Christian.Williams@natur alengland.org.uk	Chris Williams Sussex Seasearch/ Natural England Tel: 0300 060 0324, email Christian.Williams@naturale ngland.org.uk
BS	0	Broad-scale habitat	Sussex Inshore Fisheries and Conservation Authority (IFCA) - Habitat Survey data	Geographic Information System	Sussex Seasearch	WGS84	Broad-scale Habitat survey data from Sussex Inshore Fisheries and Conservation Authority (IFCA). Provided by Sussex Inshore Fisheries and Conservation Authority (IFCA) as Excel spreadsheet and MapInfo file. Converted to ESRI shapefile by Balanced Seas project team. Dataset contains survey data from a variety of third party sources.	0	0	0	Provided by Sussex Inshore Fisheries and Conservation Authority (IFCA) as Excel spreadsheet and MapInfo file. Converted to ESRI shapefile by Balanced Seas project team. Dataset contains survey data from a variety of third party sources.	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Rob Clarke, Sussex IFCA	Rob Clarke, Sussex IFCA	Rob Clarke, Sussex IFCA
BS	0	Other	Artificial Reef (proposed location by Sussex Marine Trust) - Artificial Reef Locations	Geographic Information System	Sussex Marine Trust	WGS84	Sussex Marine Trust initiated project to sink an artificial reef to promote marine biodiversity.	0	0	0	Co-ordinates provided by SinkOne4Sussex (Sussex Marine Trust project)	Unknown	Restrictions to public access unknown. Check with data originator.	0	Unknown	Unknown	Sussex Marine Trust - http://www.SinkOne4Sussex.Org	Sussex Marine Trust - http://www.SinkOne4Sussex.Org	Sussex Marine Trust - http://www.SinkOne4Sussex.Org
BS	0	Aggregates	Tarmac Marine Dredging Ltd, Areas 396_435_488_453 0211_region.shp	Geographic Information System	Tarmac Marine Dredging Ltd	WGS84	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	0	0	0	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	Unknown	Private company data - not for public use. Contact company for further information	0	Unknown	Unknown	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk
BS	0	Aggregates	Tarmac Marine Dredging Ltd, Nnab all dredged areas 0211_region.shp	Geographic Information System	Tarmac Marine Dredging Ltd	WGS84	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	0	0	0	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	Unknown	Private company data - not for public use. Contact company for further information	0	Unknown	Unknown	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk
BS	0	Aggregates	Tarmac Marine Dredging Ltd, NNab Res Bedrock_polyline.shp	Geographic Information System	Tarmac Marine Dredging Ltd	British National Grid	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	0	0	0	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	Unknown	Private company data - not for public use. Contact company for further information	0	Unknown	Unknown	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk
BS	0	Aggregates	Tarmac Marine Dredging Ltd, NNab Res Bedrock_region.shp	Geographic Information System	Tarmac Marine Dredging Ltd	British National Grid	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	0	0	0	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	Unknown	Private company data - not for public use. Contact company for further information	0	Unknown	Unknown	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk

BS	0	Aggregates	Tarmac Marine Dredging Ltd, Kingmere Rocks Outline 0411_rectangle	Geographic Information System	Tarmac Marine Dredging Ltd	WGS84	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	0	0	0	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	Unknown	Private company data - not for public use. Contact company for further information	0	Unknown	Unknown	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk
BS	0	Aggregates	Tarmac Marine Dredging Ltd, Proposed Kingsmere Rocks MCZ 0910_region	Geographic Information System	Tarmac Marine Dredging Ltd	WGS84	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	0	0	0	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	Unknown	Private company data - not for public use. Contact company for further information	0	Unknown	Unknown	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk
BS	0	Aggregates	Tarmac Marine Dredging Ltd, Kingmere Rocks Location 0811_region	Geographic Information System	Tarmac Marine Dredging Ltd	WGS84	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	0	0	0	Provided by Tarmac Marine (Andrew Bellamy) via BMAPA (Mark Russell)	Unknown	Private company data - not for public use. Contact company for further information	0	Unknown	Unknown	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk	Dr Andrew Bellamy, Tarmac Dredging Ltd., UMA House, Shopwhyke Road, Chichester, PO20 2AD, email andrew.bellamy@tarmac.co.uk
BS	0	Anchorage	Hutchison Ports (UK) Limited, Solent Anchorages	Geographic Information System	Hutchinson Ports	WGS84	Anchorage within the Solent. This dataset is known to be incomplete and should be updated.	0	0	0	Provided by Hutchinson Ports.	Unknown	Anchorage within the Solent. This dataset is known to be incomplete and should be updated.	0	Unknown	Unknown	Iain Johnston Public Affairs Manager Corporate Affairs Department Hutchison Ports (UK) Limited Tel: +44 (0)1394 602 066 email : johnstoni@hpuk.co.uk	Iain Johnston Public Affairs Manager Corporate Affairs Department Hutchison Ports (UK) Limited Tel: +44 (0)1394 602 066 email : johnstoni@hpuk.co.uk	Iain Johnston Public Affairs Manager Corporate Affairs Department Hutchison Ports (UK) Limited Tel: +44 (0)1394 602 066 email : johnstoni@hpuk.co.uk
BS	0	Shoreham Port Anchorages	Shoreham Port Authority, Shoreham anchorage	Geographic Information System	Shoreham Port Authority	WGS84	0	0	0	Provided by Shoreham Port Authority.	Unknown	Anchorage within the Shoreham Port area.	0	Unknown	Unknown	Shoreham Port Authority	Shoreham Port Authority	Shoreham Port Authority	
BS	0	Tidal resources	2011 Renewable Energy Association, Tidal resource energy (Isle of Wight)	Geographic Information System	Renewable Energy Association	WGS84	0	0	0	Provided by Stephanie Merry at Renewable Energy Association	Unknown	Private company data. Contact company for further information	0	Unknown	Unknown	Stephanie Merry, Renewable Energy Association	Stephanie Merry, Renewable Energy Association	Stephanie Merry, Renewable Energy Association, Stephanie Merry, email <stephaniemerry@focus-offshore.com>	
BS	0	Tidal Area of Interest	2011 Renewable Energy Association, Tidal Area of Interest (Isle of Wight)	Geographic Information System	Renewable Energy Association	WGS84	0	0	0	Provided by Stephanie Merry at Renewable Energy Association	Unknown	Private company data. Contact company for further information	0	Unknown	Unknown	Stephanie Merry, Renewable Energy Association	Stephanie Merry, Renewable Energy Association	Stephanie Merry, Renewable Energy Association, Stephanie Merry, email <stephaniemerry@focus-offshore.com>	
BS	0	Heritage	English Heritage, Submerged Peats	Geographic Information System	English Heritage	OSGB36	Database of peat provided to Balanced Seas by Dominique de Moulins (English Heritage)	0	0	0	database of peat provided to Balanced Seas by Dominique de Moulins (English Heritage)	Unknown	Unknown - contact English Heritage for further information.	0	Unknown	Unknown	Dominique de Moulins English Heritage Science Adviser for the South-East English Heritage / Institute of Archaeology UCL 31-34 Gordon Square London WC1H 0PY tel: 07810630316, email dominique.demoulins@english-heritage.org.uk	Dominique de Moulins English Heritage Science Adviser for the South-East English Heritage / Institute of Archaeology UCL 31-34 Gordon Square London WC1H 0PY tel: 07810630316, email dominique.demoulins@english-heritage.org.uk	Dominique de Moulins English Heritage Science Adviser for the South-East English Heritage / Institute of Archaeology UCL 31-34 Gordon Square London WC1H 0PY tel: 07810630316, email dominique.demoulins@english-heritage.org.uk
BS	0	Military	Ministry of Defence, Military activities	Geographic Information System	Ministry of Defence	WGS84	Dataset provided by Ministry of Defence and processed by the Balanced Seas team for visual display. Refer to Ministry of Defence for most up-to-date dataset on MOD activities.	0	0	0	Dataset provided by Ministry of Defence and processed by the Balanced Seas team for visual display. Refer to Ministry of Defence for most up-to-date dataset on MOD activities.	Unknown	Data provided by Ministry of Defence (MOD). Contact MOD for public access restrictions.	0	Unknown	Unknown	Susie Norbury Marine Conservation Zones Coord Mailpoint 4.3, Leach Bldg Whale Island Portsmouth PO2 8BY 02392 623569 DII (F) FLEET-CAP (CESO) MCZ COORD SO2C, email Susie.norbury813@mod.uk	Susie Norbury Marine Conservation Zones Coord Mailpoint 4.3, Leach Bldg Whale Island Portsmouth PO2 8BY 02392 623569 DII (F) FLEET-CAP (CESO) MCZ COORD SO2C, email Susie.norbury813@mod.uk	Susie Norbury Marine Conservation Zones Coord Mailpoint 4.3, Leach Bldg Whale Island Portsmouth PO2 8BY 02392 623569 DII (F) FLEET-CAP (CESO) MCZ COORD SO2C, email Susie.norbury813@mod.uk

BS	0	Commercial_Fishing	French Vessels, Commercial_Fishing	Geographic Information System	Comité Régional des Pêches Maritimes et des Elevages Marins (processed and analysed by JNCC)	WGS84	0	0	0	0	0	Unknown	Private company data - not for public use. Contact company for further information	0	Unknown	Unknown	Comité Régional des Pêches Maritimes et des Elevages Marins	Comité Régional des Pêches Maritimes et des Elevages Marins	JNCC
BS	0	Commercial_Fishing	Under 16m French Vessels, Commercial_Fishing	Geographic Information System	Comité Régional des Pêches Maritimes et des Elevages Marins (processed and analysed by JNCC)	WGS84	0	0	0	0	0	Unknown	Private company data - not for public use. Contact company for further information	0	Unknown	Unknown	Comité Régional des Pêches Maritimes et des Elevages Marins	Comité Régional des Pêches Maritimes et des Elevages Marins	JNCC
BS	0	Cables	Britain-Netherlands submarine cable, National grid	Geographic Information System	National Grid	WGS84	Co-ordinates provided interpreted to ESRI polyline. Data is of the Brit-Ned.	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	National Grid	National Grid	Balanced Seas using National Grid co-ordinate set
BS	0	Cables	South East Cables	Geographic Information System	SeaFish	WGS84	0	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	http://www.seafishmarineservices.com/Kingfisher.htm	http://www.seafishmarineservices.com/Kingfisher.htm	http://www.seafishmarineservices.com/Kingfisher.htm
BS	0	Cables	Seafish, Kentish Flats Power Cables	Geographic Information System	SeaFish	WGS84	0	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Unknown	Unknown	Unknown
BS	0	Cables	Submarine Cable	Geographic Information System		WGS84	0	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Unknown	Unknown	Unknown
BS	0	Navigational_dredging	Navigational_dredging	Geographic Information System	Associated British Ports	OSGB36	0	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Associated British Ports	Associated British Ports	Associated British Ports
BS	0	Socio_Economic	Port Exclusion area around Dover Harbour, UK	Geographic Information System		WGS84	0	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Unknown	Unknown	Unknown
BS	0	Royal Yachting Association	Royal Yachting Association, Current RYA Cruising Routes_point.shp	Geographic Information System	Royal Yachting Association	WGS84	This data shows RYA activities, current to 2010. The background to the identification of cruising routes, racing and sailing areas was derived from internal expertise with the RYA as well as through relevant nautical almanacs, regional pilot guides, sailing guides and similar publications. For further information on the methodology and data collection contact the RYA.	0	0	30/05/2010	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/
BS	0	Royal Yachting Association	Royal Yachting Association, Current RYA Cruising Routes_polyline.shp	Geographic Information System	Royal Yachting Association	WGS84	This data shows RYA activities, current to 2010. The background to the identification of cruising routes, racing and sailing areas was derived from internal expertise with the RYA as well as through relevant nautical almanacs, regional pilot guides, sailing guides and similar publications. For further information on the methodology and data collection contact the RYA.	0	0	30/05/2010	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/

BS	0	Royal Yachting Association	Royal Yachting Association, Current RYA Sailing Areas_region.shp	Geographic Information System	Royal Yachting Association	WGS84	This data shows RYA activities, current to 2010. The background to the identification of cruising routes, racing and sailing areas was derived from internal expertise with the RYA as well as through relevant nautical almanacs, regional pilot guides, sailing guides and similar publications. For further information on the methodology and data collection contact the RYA.	0	0	30/05/2010	Provided by Royal Yachting Association	Unknown	Restrictions unknown	0	Unknown	Unknown	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/
BS	0	Royal Yachting Association	Royal Yachting Association, RYA Clubs - 2010 (April) data_point.shp	Geographic Information System	Royal Yachting Association	WGS84	This data shows RYA activities, current to 2010. The background to the identification of cruising routes, racing and sailing areas was derived from internal expertise with the RYA as well as through relevant nautical almanacs, regional pilot guides, sailing guides and similar publications. For further information on the methodology and data collection contact the RYA.	0	0	30/05/2010	Provided by Royal Yachting Association	Unknown	Restrictions unknown	0	Unknown	Unknown	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/
BS	0	Royal Yachting Association	Royal Yachting Association, RYA Marinas - 2010 (April) data_point.shp	Geographic Information System	Royal Yachting Association	WGS84	This data shows RYA activities, current to 2010. The background to the identification of cruising routes, racing and sailing areas was derived from internal expertise with the RYA as well as through relevant nautical almanacs, regional pilot guides, sailing guides and similar publications. For further information on the methodology and data collection contact the RYA.	0	0	30/05/2010	Provided by Royal Yachting Association	Unknown	Restrictions unknown	0	Unknown	Unknown	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/
BS	0	Royal Yachting Association	Royal Yachting Association, RYA Training Centres - 2010 (April) data_point.shp	Geographic Information System	Royal Yachting Association	WGS84	This data shows RYA activities, current to 2010. The background to the identification of cruising routes, racing and sailing areas was derived from internal expertise with the RYA as well as through relevant nautical almanacs, regional pilot guides, sailing guides and similar publications. For further information on the methodology and data collection contact the RYA.	0	0	30/05/2010	Provided by Royal Yachting Association	Unknown	Restrictions unknown	0	Unknown	Unknown	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/
BS	0	Royal Yachting Association	Royal Yachting Association, Solent and IOW Slipways Mappable_font_point.shp	Geographic Information System	Royal Yachting Association	WGS84	This data shows RYA activities, current to 2010. The background to the identification of cruising routes, racing and sailing areas was derived from internal expertise with the RYA as well as through relevant nautical almanacs, regional pilot guides, sailing guides and similar publications. For further information on the methodology and data collection contact the RYA.	0	0	30/05/2010	Provided by Royal Yachting Association	Unknown	Restrictions unknown	0	Unknown	Unknown	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/	Royal Yachting Association http://www.rya.org.uk/

BS	0	Traffic Separation Scheme	Balanced Seas MCZ Project, Dover Traffic Separation Scheme - for visualisation use only (not to be used for navigation)	Geographic Information System	SeaZone/Balanced Seas	WGS84	Not available	0	0	2010	Not available	Unknown	Not an official dataset, not for public use.	0	Unknown	Unknown	<p>Marine Protected Areas Adviser, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/</p> <p>or</p> <p>Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk</p>	<p>Marine Protected Areas Adviser, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/</p> <p>or</p> <p>Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk</p>	Balanced Seas
BS	0	Wind Farm Cable Corridors	Wind Farm Cable Corridors	Geographic Information System		WGS84	Not available	0	0	0	Not available	Unknown	Restrictions unknown	0	Unknown	Unknown	Unknown	Unknown	
BS	0	Wind Farm Cable Corridors (Isle of Wight)	Wind Farm Cable Corridors (Isle of Wight)	Geographic Information System		WGS84	Not available	0	0	0	Not available	Unknown	Restrictions unknown	0	Unknown	Unknown	Unknown	Unknown	
BS	0	Wind farms- Gunfleet Sands	2011 DONG Energy Gunfleet Sands Windfarm, Demo Area Boundary	Geographic Information System	DONG Energy	WGS84	Not available	0	0	2011	Not available	Unknown	Restrictions unknown	0	Unknown	Unknown	<p>Sally Holroyd Environment & Consent Manager DONG Energy Power (UK) 33 Grosvenor Place London SW1X 7HY Tel: +44 (0)20 7811 5389 email : sahol@dongenergy.co.uk</p>	<p>Sally Holroyd Environment & Consent Manager DONG Energy Power (UK) 33 Grosvenor Place London SW1X 7HY Tel: +44 (0)20 7811 5389 email : sahol@dongenergy.co.uk</p>	<p>Sally Holroyd Environment & Consent Manager DONG Energy Power (UK) 33 Grosvenor Place London SW1X 7HY Tel: +44 (0)20 7811 5389 email : sahol@dongenergy.co.uk</p>
BS	0	Wind farms- Gunfleet Sands	2011 DONG Energy Gunfleet Sands Windfarm, Cable Fan Area	Geographic Information System	DONG Energy	WGS84	Not available	0	0	2011	Not available	Unknown	Restrictions unknown	0	Unknown	Unknown	<p>Sally Holroyd Environment & Consent Manager DONG Energy Power (UK) 33 Grosvenor Place London SW1X 7HY Tel: +44 (0)20 7811 5389 email : sahol@dongenergy.co.uk</p>	<p>Sally Holroyd Environment & Consent Manager DONG Energy Power (UK) 33 Grosvenor Place London SW1X 7HY Tel: +44 (0)20 7811 5389 email : sahol@dongenergy.co.uk</p>	<p>Sally Holroyd Environment & Consent Manager DONG Energy Power (UK) 33 Grosvenor Place London SW1X 7HY Tel: +44 (0)20 7811 5389 email : sahol@dongenergy.co.uk</p>

BS	0	Beach-management_in_polygons.shp	2011 Beach Management intersecting with dMCZs as of 27/07/11	Geographic Information System	Environment Agency	OSGB36	Provided by Environment Agency as part of their coastal defence strategy.	40751	40751	40751	Provided by Environment Agency as part of their coastal defence strategy.	Unknown	Restrictions unknown	0	Unknown	Unknown	Kate Potter Principal Officer - Biodiversity River Basin Planning & Ecology Environment & Performance (South East) Environment Agency South East Guildbourne House Chatsworth Road Worthing BN11 1LD 01903 703954, email kate.potter@environment-agency.gov.uk	Kate Potter Principal Officer - Biodiversity River Basin Planning & Ecology Environment & Performance (South East) Environment Agency South East Guildbourne House Chatsworth Road Worthing BN11 1LD 01903 703954, email kate.potter@environment-agency.gov.uk	Kate Potter Principal Officer - Biodiversity River Basin Planning & Ecology Environment & Performance (South East) Environment Agency South East Guildbourne House Chatsworth Road Worthing BN11 1LD 01903 703954, email kate.potter@environment-agency.gov.uk
BS	0	policy_lines2_join.shp	2011 Coastal Defence Policy Lines	Geographic Information System	Environment Agency	OSGB36	Provided by Environment Agency as part of their coastal defence strategy.	40751	40751	40751	Provided by Environment Agency as part of their coastal defence strategy.	Unknown	Restrictions unknown	0	Unknown	Unknown	Kate Potter Principal Officer - Biodiversity River Basin Planning & Ecology Environment & Performance (South East) Environment Agency South East Guildbourne House Chatsworth Road Worthing BN11 1LD 01903 703954, email kate.potter@environment-agency.gov.uk	Kate Potter Principal Officer - Biodiversity River Basin Planning & Ecology Environment & Performance (South East) Environment Agency South East Guildbourne House Chatsworth Road Worthing BN11 1LD 01903 703954, email kate.potter@environment-agency.gov.uk	Kate Potter Principal Officer - Biodiversity River Basin Planning & Ecology Environment & Performance (South East) Environment Agency South East Guildbourne House Chatsworth Road Worthing BN11 1LD 01903 703954, email kate.potter@environment-agency.gov.uk
BS	0	Southeast_SMP-short.shp	2011 Shoreline Management Plans for the Southeast	Geographic Information System	Environment Agency	OSGB36	Provided by Environment Agency as part of their coastal defence strategy.	40751	40751	40751	Provided by Environment Agency as part of their coastal defence strategy.	Unknown	Restrictions unknown	0	Unknown	Unknown	Kate Potter Principal Officer - Biodiversity River Basin Planning & Ecology Environment & Performance (South East) Environment Agency South East Guildbourne House Chatsworth Road Worthing BN11 1LD 01903 703954, email kate.potter@environment-agency.gov.uk	Kate Potter Principal Officer - Biodiversity River Basin Planning & Ecology Environment & Performance (South East) Environment Agency South East Guildbourne House Chatsworth Road Worthing BN11 1LD 01903 703954, email kate.potter@environment-agency.gov.uk	Kate Potter Principal Officer - Biodiversity River Basin Planning & Ecology Environment & Performance (South East) Environment Agency South East Guildbourne House Chatsworth Road Worthing BN11 1LD 01903 703954, email kate.potter@environment-agency.gov.uk
BS	0	MCZ Suggestion - Utopia (Hampshire and Isle of Wight Wildlife Trust)	MCZ Suggestion - Utopia (Hampshire and Isle of Wight Wildlife Trust)	Geographic Information System	Hampshire and Isle of Wight Wildlife Trust	WGS84	Hampshire and Isle of Wight Wildlife Trust - suggested MCZ boundary	0	0	0	Provided by Hampshire and Isle of Wight Wildlife Trust	Unknown	Restrictions unknown	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk
BS	0	MCZ Suggestion (SEEBF)	MCZ Suggestion South East England Biodiversity Forum (SEEBF)	Geographic Information System	SEEBF	WGS84	SEEBF - suggested MCZ boundary	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk

BS	0	Alans Co-ordsBoxes_region.shp	Kent Wildlife Tryst and Folkstone Commercial Fishing Fleet representative, Hythe Bay MCZ proposals - Alan Grigg's co-ordinates for management boxes.	Geographic Information System	Alan Griggs (Commercial Fisherman)/Kent Wildlife Trust	WGS84	Alan Griggs (Commercial Fisherman)/Kent Wildlife Trust - suggested MCZ boundary	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk
BS	0	PossNew_BA126_region.shp	Kent Wildlife Tryst and Folkstone Commercial Fishing Fleet representative, Hythe Bay MCZ proposals - Possible new MCZ boundary for site 26 in Hythe Bay	Geographic Information System	Alan Griggs (Commercial Fisherman)/Kent Wildlife Trust	WGS84	Alan Griggs (Commercial Fisherman)/Kent Wildlife Trust - suggested MCZ boundary	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk
BS	0	MCZ Suggestion (French fisheries)	MCZ Suggestion (French fisheries)	Geographic Information System	French Fisheries	WGS84	French Fisheries - suggested MCZ boundary	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	French fisheries - detail tbc	French fisheries - detail tbc	French fisheries - detail tbc
BS	0	MCZ Suggestion (French fisheries)	MCZ Suggestion (French fisheries)	Geographic Information System	French Fisheries	WGS84	French Fisheries - suggested MCZ boundary	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	French fisheries - detail tbc	French fisheries - detail tbc	French fisheries - detail tbc
BS	0	MCZ Suggestion (Southwest Rocks by Seasearch)	MCZ Suggestion (Southwest Rocks by Seasearch)	Geographic Information System	Seasearch	WGS84	Seasearch - suggested MCZ boundary	0	0	0	Seasearch	Unknown	Restrictions unknown	0	Unknown	Unknown	Alex Tait, Sussex Seasearch	Alex Tait, Sussex Seasearch	Alex Tait, Sussex Seasearch
BS	0	MCZ Suggestion (Southwest Rocks by Seasearch)	MCZ Suggestion (Southwest Rocks by Seasearch)	Geographic Information System	Seasearch	WGS84	Seasearch - suggested MCZ boundary	0	0	0	Seasearch	Unknown	Restrictions unknown	0	Unknown	Unknown	Alex Tait, Sussex Seasearch	Alex Tait, Sussex Seasearch	Alex Tait, Sussex Seasearch
BS	0	MCZ Suggestion (Kent Wildlife Trust)	MCZ Suggestion (Kent Wildlife Trust)	Geographic Information System	Seasearch/ Kent Wildlife Trust	WGS84	Seasearch/ Kent Wildlife Trust - suggested MCZ boundary	0	0	0	Seasearch/ Kent Wildlife Trust	Unknown	Restrictions unknown	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk
BS	0	MCZ Suggestion (Kent Wildlife Trust)	MCZ Suggestion (Kent Wildlife Trust)	Geographic Information System	Seasearch/ Kent Wildlife Trust	WGS84	Seasearch/ Kent Wildlife Trust - suggested MCZ boundary	0	0	0	Seasearch/ Kent Wildlife Trust	Unknown	Restrictions unknown	0	Unknown	Unknown	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk	Bryony Chapman, Marine Officer Kent Wildlife Trust, Tyland Barn, Sandling, Maidstone, Kent, ME14 3BD 01622 662012, email Bryony.Chapman@kentwildlife.org.uk

BS	0	MCZ Suggestion (SEEBF)	MCZ Suggestion, South East England Biodiversity Forum (SEEBF)	Geographic Information System	SEEBF	WGS84	SEEBF - suggested MCZ boundary	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk	Jolyon Chesworth South East Marine Conservation Manager Hampshire and Isle of Wight Wildlife Trust Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP 01489 774445, email JolyonC@hwt.org.uk
BS	0	MCZ Suggestion (Overfalls Group)	MCZ Suggestion (Overfalls Group)	Geographic Information System	Overfalls Group	WGS84	Overfalls Group - suggested MCZ boundary	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Overfalls Group	Overfalls Group	Overfalls Group
BS	0	MCZ Suggestion (Marine Conservation Society)	MCZ Suggestion (Marine Conservation Society)	Geographic Information System	Marine Conservation Society	WGS84	Marine Conservation Society - suggested MCZ location	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Marine Conservation Society	Marine Conservation Society	Marine Conservation Society
BS	0	MCZ Suggestion (Sussex Sea Fisheries Committee)	MCZ Suggestion (Sussex Sea Fisheries Committee)	Geographic Information System	Sussex Sea Fisheries Committee	WGS84	Sussex Sea Fisheries Committee - suggested MCZ boundary	0	0	0	0	Unknown	Restrictions unknown	0	Unknown	Unknown	Sussex Sea Fisheries Committee	Sussex Sea Fisheries Committee	Sussex Sea Fisheries Committee
BS	0	Draft Final Sites (Iteration 4)	2011 Past MCZ Boundaries, Draft Final Sites (Iteration 4)	Geographic Information System	Balanced Seas MCZ Project	WGS84	Draft MCZ Site boundaries submitted by Balanced Seas MCZ project at Iteration 4	40602	40733	40733		Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Not planned	Marine Protected Areas Adviser, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/ or Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk	Marine Protected Areas Adviser, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/ or Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk	GIS and Data Officer Balanced Seas MCZ Project 01227 827839 balancedseas@kent.ac.uk

BS	0	Draft Reference Areas (Iteration 4)	2011 Past MCZ Boundaries, Draft Reference Areas (Iteration 4)	Geographic Information System	Balanced Seas MCZ Project	WGS84	Draft Reference Area boundaries submitted by Balanced Seas MCZ project at Iteration 4	40602 40733	40733	Draft Reference Area boundaries submitted by Balanced Seas MCZ project at Iteration 4	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Not planned	<p>Marine Protected Areas Advisor, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/</p> <p>or</p> <p>Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk</p>	<p>Marine Protected Areas Advisor, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/</p> <p>or</p> <p>Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk</p>	<p>GIS and Data Officer Balanced Seas MCZ Project 01227 827839 balancedseas@kent.ac.uk</p>
BS	0	Iteration 3 Sites	2011 Past MCZ Boundaries, Iteration 3 Sites	Geographic Information System	Balanced Seas MCZ Project	WGS84	Site boundaries submitted by Balanced Seas MCZ project at Iteration 3	40480 40602	40602	Site boundaries submitted by Balanced Seas MCZ project at Iteration 3	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Not planned	<p>Marine Protected Areas Advisor, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/</p> <p>or</p> <p>Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk</p>	<p>Marine Protected Areas Advisor, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/</p> <p>or</p> <p>Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk</p>	<p>GIS and Data Officer Balanced Seas MCZ Project 01227 827839 balancedseas@kent.ac.uk</p>

BS	0	Iteration 2 Sites	2010 Past MCZ Boundaries, Iteration 2 Sites	Geographic Information System	Balanced Seas MCZ Project	WGS84	Site boundaries submitted by Balanced Seas MCZ project at Iteration 2	40359 40845	40845	Site boundaries submitted by Balanced Seas MCZ project at Iteration 2	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Not planned	Marine Protected Areas Advisor, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/ or Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk	Marine Protected Areas Advisor, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/ or Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk	GIS and Data Officer Balanced Seas MCZ Project 01227 827839 balancedseas@kent.ac.uk
BS	0	Iteration 1 Sites	2010 Past MCZ Boundaries, Iteration 1 Sites	Geographic Information System	Balanced Seas MCZ Project	40359	Site boundaries submitted by Balanced Seas MCZ project at Iteration 1	40210 40359	40359	Site boundaries submitted by Balanced Seas MCZ project at Iteration 1	Unknown	No restrictions to public access.	0	Data is freely available for research or commercial use providing that the originators are acknowledged in any publications produced.	Not planned	Marine Protected Areas Advisor, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/ or Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk	Marine Protected Areas Advisor, Marine Protected Sites team, JNCC, Monkstone House, Peterborough, PE1 1JY Tel: 01733 562626 Fax: 01733 555948 email : comment@jncc.gov.uk Tel: 01733 562626 Fax: 01733 555948 email : http://jncc.defra.gov.uk/ or Lead Adviser (Marine Data), Geographical Information and Analysis Services Team Head Office Natural England Foundry House 3 Millsands Riverside Exchange Sheffield S3 8NH Tel 0300 060 2745 Fax: 0300 060 1622 email : enquiries@naturalengland.org.uk	GIS and Data Officer Balanced Seas MCZ Project 01227 827839 balancedseas@kent.ac.uk
BS	0	0	Sheltered muddy gravels	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Seapen and burrowing megafauna communities	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0	0

BS	0	0	<i>Ostrea edulis</i> beds	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Mud habitats in deep water	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Maerl beds	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Intertidal underboulder communities	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Blue mussel beds (including intertidal blue mussel beds)	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Estuarine rocky habitats	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Littoral chalk communities	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Peat and clay exposures	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	<i>Sabellaria alveolata</i> reef	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	<i>Sabellaria spinulosa</i> reefs	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Subtidal chalk	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	Subtidal sands and gravels	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0

BS	0	0	0	Seagrass beds	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Defolin's lagoon snail	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Tentacled Lagoon Worm	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Defolin's lagoon snail	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Lagoon sand shrimp	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Stalked jellyfish (<i>Halicylistus auricular</i>)	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Stalked jellyfish (<i>Halicylistus auricular</i>)	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Stalked jellyfish (<i>Hippocampus guttulatus</i>)	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Stalked jellyfish (<i>Hippocampus hippocampus</i>)	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Stalked jellyfish (<i>Lucernariopsis cruxmelitensis</i>)	0	Combined	0	0	0	0	0	0	0	0	0	0	0
BS	0	0	0	Starlet sea anemone (<i>Nematostella vectensis</i>)	0	Combined	0	0	0	0	0	0	0	0	0	0	0

BS	0		Native oyster	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0		Peacock's tail	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0		Sea snail	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0		Lagoon sea slug	0	Combined	0	0	0	0	0	0	0	0	0	0	0	0
BS	0		Full Habitat FOCI data (all sources)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BS	0		MB5301	0	MB5301	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	fronts	fronts	0	Finding Sanctuary/J NCC	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	contours	contours	0	Finding Sanctuary/J NCC	0	0	0	0	0	0	0	0	0	0	0	0
BS	0		101215_APEI_WTfinal_region.shp areas of additional pelagic ecological importance (APEI) 101215_APEI_BS_region.shp	0	Wildlife Trusts, through a contract with JNCC	0	0	0	0	0	0	0	0	0	0	0	0
BS	0		101215_APEI_WTfinal_region.shp areas of additional pelagic ecological importance (APEI) 101215_APEI_BS_region.shp	0	Wildlife Trusts, through a contract with JNCC	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	IFCA Boundaries	IFCA Boundaries	0	Kent and Essex IFCA	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Sea Fisheries Committee Boundaries	Sea Fisheries Committee Boundaries	0	Sussex Sea Fisheries Committee	0	0	0	0	0	0	0	0	0	0	0	0

BS	0	Wildfowling	Wildfowling	0	Crown Estate	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Undulate Ray	Undulate ray	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Jewel anemones and hard corals	2009 Marien Recorder via Kent Wildlife Trust, Jewel anemones and hard corals <i>Caryophyllia smithii</i> , <i>C. inornata</i> , <i>Hoplangia durotrix</i>	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Cerianthus lloydii	2009 Marine Recorder via Kent Wildlife Trust, <i>Cerianthus lloydii</i>	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Peacock Worm beds (Sabella pavonina)	2009 Marine Recorder via Kent Wildlife Trust, Peacock Worm beds (<i>Sabella pavonina</i>)	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Molgula beds	2009 Marine Recorder via Kent Wildlife Trust, <i>Molgula</i> beds	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Blue mussel beds (including intertidal mytilus edulis)	Marine Recorder, Blue mussel beds (including intertidal blue mussel beds)	0	Marine Recorder	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Diadumene cincta	2009 Marine Recorder via Kent Wildlife Trust, <i>Diadumene cincta</i>	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Ampelisca mats	2009 Marine Recorder via Kent Wildlife Trust, Ampelisca mats	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Native Oyster	August 2010 Marine Recorder update , Native oyster (<i>Ostrea edulis</i>)	0	Marine Recorder	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Chalk gullies	Marine Recorder via Kent Wildlife Trust, Chalk gullies	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0

BS	0	Black Bream (<i>Pondyliosoma cantharus</i>)	2009 Marine Recorder via Kent Wildlife Trust, Black Bream (<i>Pondyliosoma cantharus</i>)	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Fucus ceranoides on firm substratum at landward end of estuaries.	2009 Marine Recorder via Kent Wildlife Trust, Fucus ceranoides on firm substratum at landward end of estuaries.	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Hard rock reefs, including sandstone and cementstone.	Marine Recorder via Kent Wildlife Trust, Hard rock reefs, including sandstone and cementstone.	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Pentapora foliacea	Marine Recorder via Kent Wildlife Trust, Pentapora foliacea	0	Kent Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Broad-scale habitat	REC Synthesis Data	0	http://www.cefas.defra.gov.uk/ais/projects/projects.aspx	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Broad-scale habitat	REC Outer Thames	0	http://www.cefas.defra.gov.uk/ais/projects/projects.aspx	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Broad-scale habitat	REC Eastern English Channel	0	http://www.cefas.defra.gov.uk/ais/projects/projects.aspx	0	0	0	0	0	0	0	0	0	0	0	0
BS	0	Geology	Geology	0	BGS	0	0	0	0	0	0	0	0	0	0	0	0

Region	MCZ site name/s related to	Data Title	MEDIN Title	Format	Source	Projection/ Spatial Reference System	Abstract	Date start	Date end	Date published	Lineage-Information on Data Quality, sources of data, processing steps and other background information	Spatial Resolution (m)	Limitations on public access	Data restrictions	Conditions for access and use constraints	Frequency of Update	Who is responsible for maintenance of the dataset? (Contact Name, Organisation, Address, Phone No)	Who created the metadata or can be contacted about the metadata of the dataset? (Contact Name, Organisation, Address, Phone No)	Who created the dataset? (Contact Name, Organisation, Address, Phone No)
FS	Isles of Scilly	Isles of Scilly 2010 Seasearch and ShoreSearch survey data points	This dataset is not to be made available via MEDIN.	Supplied to Finding Sanctuary as a spreadsheet of survey points and BAP habitat names.	Environmental Records Centre for Cornwall and the Isles of Scilly / Cornwall Wildlife Trust	WGS84	Records of FOCI from 2010 Seasearch and ShoreSearch surveys in the Isles of Scilly.	2010	2010	0	These records formed part of the amalgamated FOCI layers used by Finding Sanctuary, as described in appendix 8 of the final report.	n/a	Refer to ERCCIS. Not to be shared with third parties or to be used for purposes other than MCZ-related audit trail and evidence. Refer to ERCCIS data sharing agreement with Natural England (October 2011).	0	ERCCIS have given permission for this dataset to be archived by SNCBs for the purpose of audit trail / MCZ-related evidence. No permission is given to share the data with third parties, or to use it for non-MCZ related work (contact person regarding data sharing is Gary Lewis at ERCCIS)	0	0	ERCCIS (Environmental Records Centre for Cornwall and the Isles of Scilly). Contact person was Angie Gall.	ERCCIS (Environmental Records Centre for Cornwall and the Isles of Scilly). Contact person for data supply for this specific dataset was Angie Gall (IoS Wildlife Trust, though the data sharing agreement was through ERCCIS and the contact person there was Gary Lewis).
FS	none (data not used during MCZ planning)	Benthic survey info from Ambios Ltd Start bay survey	n/a	Supplied to Finding Sanctuary as a series of MapInfo files	Devon Biodiversity Records Centre	0	0	0	0	0	0	0	Refer to DBRC	0	Copyright of these maps belongs to Devon Wildlife Trust unless otherwise stated. No further copies may be made and data should not be passed on to third parties. Permission must be sought from Devon Wildlife Trust should you wish to use these data for any purpose. Devon Biodiversity Records Centre, Feb 2007. 01392 279244	0	0	0	0
FS	none (data not used during MCZ planning)	Survey points in Devon Avon and Erme area	n/a	GIS point data (MapInfo files)	Devon Biodiversity Records Centre	0	0	0	0	0	0	0	Refer to DBRC	0	refer to DBRC	0	0	Supplied to FS by Devon Biodiversity Records Centre. Not sure who created the metadata.	0
FS	none (data not used during MCZ planning)	SWBSS Field surveys around Lundy (1978-79)	n/a	GIS point data (MapInfo files)	Devon Biodiversity Records Centre	0	0	0	0	0	0	0	Refer to DBRC	0	refer to DBRC	0	0	Supplied to FS by Devon Biodiversity Records Centre. Not sure who created the metadata (data owner / origins were down as DWT - Devon Wildlife Trust).	0
FS	none (data not used during MCZ planning)	Benthic information for Grunta beach (Woolacombe)	n/a	GIS vector data (MapInfo files)	Devon Biodiversity Records Centre	0	0	0	0	0	0	0	Refer to DBRC	0	Refer to DBRC	0	0	Supplied to FS by Devon Biodiversity Records Centre. Not sure who created the metadata (data owner / origins were down as DWT - Devon Wildlife Trust).	0
FS	none (data not used during MCZ planning)	BHG Benthic information	n/a	GIS vector data (MapInfo files)	Devon Biodiversity Records Centre	0	0	0	0	0	0	0	Refer to DBRC	0	Refer to DBRC	0	0	Supplied to FS by Devon Biodiversity Records Centre. Not sure who created the metadata (data owner / origins were down as DWT - Devon Wildlife Trust).	DWT (Ambios contracted to do the work)

FS	0	Cetacean sightings information from Marinelife CHARM III project	n/a	GIS polyline	MarineLife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FS	0	Atrina fragilis records supplied by MCS	This dataset is not to be made available via MEDIN.	Excel sheet, converted to GIS point dataset	Marine Conservation Society	0	Atrina fragilis records which have been collated by MCS, including records of dead specimens. GIS data contains point data only.	0	0	0	0	0	0	0	0	0	0	0	MCS	MCS
FS	0	FOCI species data from Cornwall Wildlife Trust	This dataset is not to be made available via MEDIN.	Excel sheet, converted to GIS point dataset	Cornwall Wildlife Trust	0	Cornwall Wildlife Trust point records	0	0	0	0	0	0	0	0	0	0	0	CWT / ERCCIS	CWT / ERCCIS
FS	0	Marine Conservation Society. Basking Shark database	This dataset is not to be made available via MEDIN.	MS Access database	Marine Conservation Society	0	Sightings of basking sharks in UK waters, some records from 1930s with the great majority of data collected after 1970. Information collated from range of sources.	0	0	0	0	0	0	0	0	0	0	0	MCS	MCS
FS	0	Seaquest SW cetacean sightings database	This dataset is not to be made available via MEDIN.	MS Access database	ERCCIS	0	0	0	0	0	0	0	0	0	0	0	0	0	Refer to ERCCIS	Refer to ERCCIS
FS	0	Seaquest SW cetacean strandings database	This dataset is not to be made available via MEDIN.	MS Access database	ERCCIS	0	0	0	0	0	0	0	0	0	0	0	0	0	Refer to ERCCIS	Refer to ERCCIS
FS	0	Sightings data from the 'Scillonian'. Isles of Scilly Wildlife Trust	n/a	Excel Spreadsheet	Isles of Scilly Wildlife Trust	0	0	0	0	0	0	0	0	0	0	0	0	0	Refer to IoS WT	Refer to IoS WT

FS	0	EA survey data	This dataset is not to be made available via MEDIN.	Excel Spreadsheet	Environment Agency	0	Excel sheets with survey data from 2007 which includes records of tentacled lagoon worm in Dart	0	0	0	0	0	Refer to EA	0	The EA have given permission for this data to be supplied to Natural England and the JNCC for the purpose of MCZ audit trail and as supporting evidence for MCZ proposals, but not for the data to be used for non-MCZ related work. No permission has been given to share the data with third parties or share it via MEDIN (Elly Andison was the contact person for Finding Sanctuary) All EA data listed here and supplied needs a licence agreement to be set up with the Environment Agency	0	0	Refer to EA	Refer to EA		
FS	0	Seasearch 2009 records for SW	This dataset is not to be made available via MEDIN.	Excel Spreadsheet	Seasearch (Chris Wood)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FS	0	Dorset wildlife Trust combined point data (FOCI)	This dataset is not to be made available via MEDIN.	GIS datasets, reports and email correspondence	Dorset WT / Dorset Environmental Records Centre	0	A set of survey records supplied by Dorset Wildlife Trust to Finding Sanctuary. This folder contains the data as supplied to Finding Sanctuary, some of this was extracted to form part of the amalgamated FOCI layers supplied separately.	0	0	0	0	0	0	0	For FS use, and permission has been given to share with the SNCBs for the purpose of MCZ audit trail. No permission to share further or use for any other purpose - please approach data owners directly. Any queries relating to this data should be directed to Kathryn Dawson at Dorset Wildlife Trust. 01305 264620	0	0	0	0		
FS	0	DORIS intertidal data	This dataset is not to be made available via MEDIN.	0	Dorset WT / Dorset Environmental Records Centre	0	A set of survey records from the DORIS survey, supplied by Dorset Wildlife Trust to Finding Sanctuary. This folder contains the data as supplied to Finding Sanctuary, some of this was extracted to form part of the amalgamated FOCI layers supplied separately.	0	0	0	0	0	0	0	For FS use, and permission has been given to share with the SNCBs for the purpose of MCZ audit trail. No permission to share further or use for any other purpose - please approach data owners directly. Any queries relating to this data should be directed to Kathryn Dawson at Dorset Wildlife Trust. 01305 264620	0	0	0	0		
FS	0	Species and habitats in Poole Harbour from the Environment Agency	This dataset is not to be made available via MEDIN.	Excel Spreadsheet	Environment Agency	0	Species and habitat records in Poole harbour from the Environment Agency	0	0	0	0	0	Refer to EA	0	The EA have given permission for this data to be supplied to Natural England and the JNCC for the purpose of MCZ audit trail and as supporting evidence for MCZ proposals, but not for the data to be used for non-MCZ related work. No permission has been given to share the data with third parties or share it via MEDIN (Elly Andison was the contact person for Finding Sanctuary)	0	0	Refer to EA	Refer to EA		
FS	0	EUNIS level 3 combined broad-scale habitat data	This dataset is not to be made available via MEDIN.	ArcGIS shapefile	Combined sources: MESH, UKSeaMap, MB102 and Environment Agency	WGS84 UTM30N	This is a shapefile (polygon data) of the combined EUNIS level 3 broad-scale habitat dataset used to calculate the figures in Finding Sanctuary's final report. It is amalgamated from UKSeaMap data, MESH data, MB102 intertidal habitat data, and Environment Agency intertidal habitat data. Some corrections to UKSeaMap data were carried out, as described in appendix 8 of Finding Sanctuary's final report. There is a source field in the attribute table indicating the data source for each polygon. The data has been intersected with the boundaries of existing MPAs, and patches of broad-scale habitat protected within the existing MPAs are tagged in the 'GAP' field in the attribute table.	0	0	0	0	0	Please refer to appendix 8 of the Finding Sanctuary's final report	0	Please refer to data providers (this is an amalgamated dataset, and cannot be made available without permission from all original data owners)	0	Please refer to data providers (this is an amalgamated dataset, and cannot be made available without permission from all original data owners). Permission has been given from all data owners for this dataset to be archived as part of the MCZ audit trail, and for the purpose of supporting evidence for MCZ proposals.	Not Planned	No one: this was created as a dataset to use for a specific purpose (MCZ planning during the Finding Sanctuary project)	Finding Sanctuary - though this is an amalgamation of data from various sources	Finding Sanctuary - though this is an amalgamation of data from various sources

FS	0	Amalgamated FOCI dataset	This dataset is not to be made available via MEDIN.	ArcGIS geodatabase	Combined sources as written up at length in Appendix 8 of Finding Sanctuary's final report	WGS84 UTM30N	This is a geodatabase containing the combined FOCI data that Finding Sanctuary used to calculate figures and create maps in the materials submitted with the final project recommendations. There are several feature datasets, for the combined layers (for species and habitats point and polygon data, respectively), and separate feature datasets containing the individual source data layers. The individual source layers are described in appendix 8 of the final project report, and some are derived from dataset listed separately in this sheet. In the geodatabase, the source layers contain the full attribute tables (as supplied with the data when it was received by Finding Sanctuary), as well as a 'source ID' field. The source ID is included in the amalgamated layers, allowing a link back between each record in the amalgamated dataset to the full set of attribute information that FS had for that record. The attribute table for the amalgamated layers contains less information for ease of use during data processing. The structure of the data, together with the information supplied in this spreadsheet and the full account in appendix 8 should allow users of this data to access the same level of information that was available to FS staff at the time of the project.	0	0	0	Please refer to appendix 8 of the Finding Sanctuary's final report	0	Please refer to data providers (this is an amalgamated dataset, and cannot be made available without permission from all original data owners)	0	Please refer to data providers (this is an amalgamated dataset, and cannot be made available without permission from all original data owners). Permission has been given from all data owners for this dataset to be archived as part of the MCZ audit trail, and for the purpose of supporting evidence for MCZ proposals.	Not Planned	No one: this was created as a dataset to use for a specific purpose (MCZ planning during the Finding Sanctuary project)	Finding Sanctuary - though this is an amalgamation of data from various sources	Finding Sanctuary - though this is an amalgamation of data from various sources
FS	0	English Heritage protected wrecks	0	0	English Heritage	WGS84	Location of protected historical wrecks	0	0	0	0	0	No	0	Intellectual Property Rights	0	0	0	English Heritage
FS	0	Scheduled Monuments	0	0	English Heritage	BNG	Record of Scheduled Monuments	0	0	0	0	0	No	0	Intellectual Property Rights	0	0	0	English Heritage
FS	0	Marine Pollution Control Zone	0	0	UKHO	0	The Merchant Shipping (Prevention of Pollution) (Limits) Regulations 1996 (SI 1996/2128, amended by (SI 1997/506) set the limits of the United Kingdom's pollution control zone. The pollution control zone is defined as 200 miles from the baseline or out to the nearest median line and is the area in which the MCA as the 'competent authority' is responsible for responding to marine pollution incidents from shipping and offshore installations.	0	0	0	0	0	No	0	Intellectual Property Rights	0	0	0	0
FS	0	World Heritage Sites	0	0	English Heritage	BNG	The dataset represents English Heritage's interpretation of the UNESCO World Heritage Site boundaries. For indication purposes only.	0	0	0	0	0	No	0	Intellectual Property Rights	0	0	0	English Heritage
FS	0	Heritage coast	0	0	Natural England	BNG	Heritage coast	0	0	0	0	0	No	0	Licence	0	0	0	0
FS	0	Wave hub exclusion zone	0	0	University of Plymouth	0	Boundary of Wave Hub exclusion zone	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0
FS	0	Devon VMCA's	0	0	Devon Biodiversity Records Centre	0	Voluntary Marine Conservation Areas (VMCA's) in Devon	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0
FS	0	Fisheries byelaws provided by the Environment Agency	0	Shapefile	Environment Agency	0	Fisheries byelaws provided by the Environment Agency – these contain at least two areas not previously mapped by FS (sep-10)	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	Environment Agency
FS	0	Cornwall SFC current byelaws	0	0	Cornwall SFC	0	Cornwall Sea Fisheries Committee current byelaws	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	CSFC

FS	0	Updated DSFC byelaws in Plymouth area	0	MapInfo	DSFC	0	Following information that some of the byelaws in the Plymouth area (digitised from NFFO yearbook) are incorrect, more accurate information provided by DSFC (Keith Bower and Bill Lawrence).	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	DSFC	
FS	0	DSFC South Devon Potting study	0	0	DSFC	0	DSFC South Devon Potting study	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	DSFC	
FS	0	DSFC North Devon Potting study	0	0	DSFC	0	DSFC North Devon Potting study	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	DSFC	
FS	0	Start point potting agreement	0	0	DSFC	0	Start point potting agreement	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0	
FS	0	InternationalGrand fatherRights	0	0	MFA	0	International grandfather rights	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0	
FS	0	NDFA Ray box	0	JPEG	NDFA	WGS84/UTM30N	NDFA Ray box	0	0	0	0	0	No	0	Intellectual Property Rights	0	0	0	NDFA	
FS	0	Devon SFC areas	0	MapInfo	Devon SFC	0	Devon Sea Fisheries Committee zones. Includes Lundy, Potting charts, Lyme Bay no tow, Net zones & SFC districts	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	DSFC	
FS	0	SFC districts	0	0	Possibly CSFC	0	SFC districts	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0	
FS	0	Midchannel potting agreement	0	Shapefile	MMO	WGS84/UTM30N	Midchannel potting agreement	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0	
FS	0	CFPO boardings data	0	0	CFPO	0	CFPO boardings data	0	0	0	0	0	0	0	0	0	0	0	CFPO	
FS	0	CFPO effort mapping	0	0	CFPO	0	CFPO effort mapping	0	0	0	0	1000	No	0	Intellectual Property Rights	0	0	0	CFPO	
FS	0	TCE fisheries	0	0	The Crown Estate	0	TCE fisheries	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0	
FS	0	fisheries byelaws - Cornwall	0	0	CSFC	0	Fisheries byelaws - Cornwall	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0	
FS	0	fisheries byelaws - Devon	0	0	DSFC	0	Fisheries byelaws - Devon	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0	
FS	0	Poole Harbour Shellfish licences	0	Raster	SSFC	0	Poole Harbour shellfish licences, Includes personal geodatabase	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	0	
FS	0	Cefas Pressures grid	0	0	Cefas	0	Human activities in UK offshore waters: an assessment of direct, physical pressure on the seabed	0	0	0	0	0	0	0	0	Intellectual Property Rights	0	0	0	Cefas
FS	0	Various RYA related data (includes club locations, cruising routes and racing areas)	0	0	RYA	0	Point data for RYA clubs, cruising routes and polygons for racing & sailing areas	0	0	0	0	0	Yes	0	Licence	0	0	0	0	
FS	0	Dredge application areas (SW)	0	Raster	The Crown Estate	0	Dredging application areas for the South West region. Updated 11/2009	0	0	0	0	0	Unknown	0	Intellectual Property Rights	0	0	0	0	
FS	0	Identifying Significant Areas project	0	0	Cornwall County Council	0	Stakeholder research carried out by Cornwall County Council and Cornwall wildlife trust c.2007	0	0	0	0	0	0	0	Intellectual Property Rights	0	0	0	Cornwall Wildlife Trust	
FS	0	Crown estate aggregate resource	0	0	Crown Estate	0	Basic MARS data	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate	

FS	0	Crown estate aggregate management	0	0	Crown Estate	0	Better than data supplied by SeaZone	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	Crown estate potential gas sites	0	0	Crown Estate	0	Crown estate potential gas sites	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	Crown Estate gas storage leases	0	0	Crown Estate	0	Crown Estate gas storage leases	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
LC	0	Tidal leases	0	0	Crown Estate	0	Details of tidal leases	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
LC	0	Wave leases	0	0	Crown Estate	0	Details of wave leases	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	TCE wind farm areas	0	0	Crown Estate	0	Collects Windfarm Rounds 1, 2 and 3 into a single location. No additional information.	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	Enjoying Water: Stakeholder user survey	0	0	0	BNG	A set of lines and polygons describing the results of a recreational water use survey commissioned by EA and undertaken by the University of Brighton	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	Environment Agency/University of Southampton
FS	0	Various data from the Crown Estate	0	0	Crown Estate	0	Various data from the Crown Estate. Includes moorings, outfalls, mariculture, cables, transport and others. No category field though	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	Pexa map audit of defence activity	0	0	Mod	WGS84	Pexa map audit of defence activity - spreadsheets and JNCC impact guidance	0	0	0	0	0	No	0	Intellectual Property Rights	0	0	0	MoD
FS	0	Crown estate aggregate region values	0	0	Crown Estate	0	Crown estate aggregate region values	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	ORRAD indicative potential development areas and resource information - Tidal	0	0	RDA	WGS84	ORRAD indicative potential development areas and resource information	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	RDA
FS	0	ORRAD indicative potential development areas and resource information - Wave	0	0	RDA	WGS84	ORRAD indicative potential development areas and resource information	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	RDA
FS	0	ORRAD indicative potential development areas and resource information - Wind	0	0	RDA	WGS84	ORRAD indicative potential development areas and resource information	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	RDA
FS	0	Crown Estate data supply, aggregates, renewables	0	0	Crown Estate	0	Crown Estate data supply, includes aggregates and renewable sites, licensing, etc.	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	Crown Estate data supply, coastal activities update	0	0	Crown Estate	0	Coastal activity data from TCE	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	Crown Estate data update including fishery orders	0	0	Crown Estate	0	Crown Estate data update including fishery orders	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	TCE cables and pipelines data	0	0	Crown Estate	0	TCE cables and pipelines data	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	TCE current dredging and mineral extraction licences	0	0	Crown Estate	0	TCE current dredging and mineral extraction licences	0	0	0	0	0	Yes	0	Intellectual Property Rights	0	0	0	The Crown Estate

FS	0	The Bristol Port Company (TBPC) - deep water dredged navigation channel for Bristol Deep Sea Container Terminal (BDSCT) and the BDSCT disposal site	0	0		0	The Bristol Port Company (TBPC) - deep water dredged navigation channel for Bristol Deep Sea Container Terminal (BDSCT) and the BDSCT disposal site.	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	Bristol Port Company (TBPC)
FS	0	The Bristol Port Company (TBPC) - aggregate dredging areas, maintenance dredging disposal sites and Bristol Deep Sea Container Terminal areas	0	0		0	The Bristol Port Company (TBPC) - aggregate dredging areas, maintenance dredging disposal sites and Bristol Deep Sea Container Terminal areas	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	Bristol Port Company (TBPC)
FS	0	Studland Bay voluntary no anchor zone (VNAZ) co-ordinates	0	0		0	Studland Bay voluntary no anchor zone (VNAZ) co-ordinates	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	0
FS	0	Helford voluntary no anchor zone (VNAZ) co-ordinates	0	0		0	Helford voluntary no anchor zone (VNAZ) co-ordinates	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	0
FS	0	SeaZone Hydrospatial	0	ESRI personal geodatabase	Seazone Ltd./Defra	0	SeaZone Hydrospatial	0	0	0	0	0	Yes	Licence	0	0	0	SeaZone Ltd.
FS	0	ESRI coastline	0	0	ESRI	WGS84	Coastline processed from ESRI water bodies (ocean) data.	0	0	0	0	0	Yes	Licence	0	0	0	ESRI
FS	0	ESRI provinces	0	0	ESRI	WGS84	ESRI shapefile of counties, coarse coastline	0	0	0	0	0	Yes	Licence	0	0	0	ESRI
FS	0	Median Line	0	0	UKDeal (owner HMSO)	ED50	Limits of UK jurisdiction (continental shelf designated area / median line with neighbours).	0	0	0	0	0	Yes	Licence	0	0	0	0
FS	0	Median line England / Wales	0	0		OSGB36/BNG	Median line between England and Wales; and Wales / Scotland, derived from OS dat.a	0	0	0	0	0	Yes	Licence	0	0	0	SeaZone Ltd.
FS	0	NOAA World Vector Shoreline	0	0	NOAA	0	Coarse scale shoreline made available by NOAA.	0	0	0	0	0	Available for public download	Intellectual Property Rights	0	0	0	NOAA
FS	0	NUTS 1 Government Office Regions	0	0	Defra	OSGB36/BNG	Administrative units (government / regional) –government office regions.	0	0	0	0	0	Available for public download	Intellectual Property Rights	0	0	0	0
FS	0	NUTS 2 - Combined Counties	0	0	Defra	OSGB36/BNG	Combined counties.	0	0	0	0	0	Available for public download	Intellectual Property Rights	0	0	0	0
FS	0	OS Boundary Line Coastline (MHW)	0	0	OS	WGS84	Mean High Water line derived from OS Boundary Line.	0	0	0	0	0	Yes	Licence	0	0	0	Ordnance Survey
FS	0	Regional project boundaries	0	ESRI Shapefile	0	WGS84	Boundaries of the regional MCZ projects.	0	0	0	0	0	0	0	0	0	0	JNCC?
FS	0	ICES areas	0	ESRI Shapefile	ICES	WGS84	ICES sea areas for NE Atlantic.	0	0	0	0	0	Available for public download	Intellectual Property Rights	0	0	0	ICES
FS	0	ICES rectangles	0	ESRI Shapefile	Danish Fisheries and Research Institute	WGS84	ICES statistical rectangles.	0	0	0	0	0	Available for public download	Intellectual Property Rights	0	0	0	ICES
FS	0	UKHO Charted Rasters	0	0	Seazone Ltd.	0	UKHO charted rasters provided by SeaZone Ltd.	0	0	0	0	0	Yes	Licence	0	0	0	UKHO
FS	0	Lyme Bay closure	0	Excel	Office of Public Sector Information	0	Lyme Bay closure.	0	0	0	0	0	Unknown	0	0	0	0	

FS	0	Lyme Bay original voluntary closed areas	0	0		0	Lyme Bay original voluntary closed areas (saw tooth ledges, east tenants, lanes ground, beer home ground).	0	0	0	0	0	Unknown	0	0	0	0	
FS	0	NNR	0	0	0	BNG	National Nature Reserves.	0	0	0	0	0	No	Licence	0	0	0	0
FS	0	RSPB reserves	0	0	RSPB	0	RSPB reserves.	0	0	0	0	0	No	Licence	0	0	0	0
FS	0	UK Sea Fisheries statistics (2005)	0	Excel	Various	0	UK Sea Fisheries statistics. Landings into major ports, stocks, etc.	0	0	0	0	0	0	0	0	0	0	0
FS	0	CSFC boardings records	0	0	CSFC	0	CSFC boardings records	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	CSFC
FS	0	Mollusc harvesting areas	0	0	Cefas	BNG	Mollusc harvesting areas	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	0
FS	0	VMS Cowrie analysis (national)	0	Raster	COWRIE Ltd	WGS84	Processed VMS data for different metiers, also landings value by ICES rectangle.	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	0
FS	0	Crab tile use in Devon	0	Shape files converted from mapinfo	DBRC	0	Crab tiling activities in Devon estuaries. GIS shapes also broken down into individual estuaries	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	DBRC
FS	0	Areas outlined for planned mussel farm in Lyme Bay by Offshore Shellfish Ltd	0	0	Offshore Shellfish Ltd	WGS84	Areas outlined for planned mussel farm in Lyme Bay by Offshore Shellfish Ltd. Information provided by John Holmyard (email: john@offshoreshellfish.com)	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	0
FS	0	Kingfisher Cable awareness charts, cable locations	0	0	UKCPC	WGS84	Cable awareness charts for the south-west approaches and the English Channel	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	UKCPC
FS	0	Standing Approvals (oil)	0	0	Marine and Fisheries Agency	0	Ports and Harbours in England and Wales that have plans drawn up and ready to be implemented in the event of an oil spill emergency. Use of oil spill treatment products in shallow marine waters such as ports and harbours requires specific approval from Defra. Ports and Harbours can seek permission for a Defra standing approval to be included in their OPRC plan which allows them to use an appropriate quantity of a specified oil treatment product on a spill. This means they do not need to seek specific permission at the time of the spill.	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	0
FS	0	Tidal power information from the Renewables Atlas	0	0	Renewables Atlas	0	Tidal power information from the Renewables Atlas.	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	
FS	0	Wave power information from the Renewables Atlas	0	0	Renewables Atlas	0	Wave power information from the Renewables Atlas.	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	
FS	0	Wind power information from the Renewables Atlas	0	0	Renewables Atlas	0	Wind power information from the Renewables Atlas.	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	
FS	0	Wind farms round 3 areas	0	0	Crown Estate	WGS84	Location of areas under consideration for round 3 offshore wind farm development.	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	Wind farms: npower Atlantic Array	0	0		WGS84	Location of the RWE npower Atlantic Array within the Bristol channel round 3 area.	0	0	0	0	0	Unknown	Intellectual Property Rights	0	0	0	Finding Sanctuary
FS	0	Waterbase	0	Access database	European Directorate-general for Environment	0	Waterbase is the generic name given to the EEA databases on the status and quality of Europe's rivers, lakes, groundwater bodies and transitional, coastal and marine waters, and on the quantity of Europe's water resources.	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	EEA
FS	0	Nuclear power stations	0	0	British Energy	BNG	Location of nuclear power stations.	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	0

FS	0	Round 3 wind farms, proposed cable connections	0	PDF	ENECO	0	West of Wight round 3 area proposed cable connections.	0	0	0	0	0	0	Intellectual Property Rights	0	0	0	Finding Sanctuary
FS	0	Portland	0	0	UK PHA	0	Boundary of port/harbour authority jurisdiction.	0	0	0	0	0	Yes	Licence	0	0	0	UK PHA
FS	0	Taw and torridge	0	0	UK PHA	0	Boundary of port/harbour authority jurisdiction.	0	0	0	0	0	Yes	Licence	0	0	0	UK PHA
FS	0	Oil and gas pipelines	0	0	Pipeline owners varied	ED50	Sub-sea pipelines and umbilicals.	0	0	0	0	0	Yes	Licence	0	0	0	UKDeal
FS	0	Oil and gas wells	0	0	DTI / DEAL	ED50	Well headers, including locations and associated metadata.	0	0	0	0	0	Yes	Licence	0	0	0	UKDeal
FS	0	Oil & Gas Licence blocks	0	0	DTI	ED50	Current UKCS offshore licensing areas both licensed and unlicensed	0	0	0	0	0	Yes	Licence	0	0	0	UKDeal
FS	0	Oil and gas field boundary data	0	0	DTI	ED50	Oil, gas and condensate fields.	0	0	0	0	0	Yes	Licence	0	0	0	UKDeal
FS	0	Oil and gas safety zones	0	0	HMSO Statutory Instrument	ED50	Safety zones defined by Statutory Instrument.	0	0	0	0	0	Yes	Licence	0	0	0	UKDeal
FS	0	Oil and gas subsurface infrastructure	0	0	Owners varied	ED50	Sub-sea oil & gas industry infrastructure & hazards.	0	0	0	0	0	Yes	Licence	0	0	0	UKDeal
FS	0	Oil and gas surface infrastructure	0	0	Owners varied	ED50	Sea surface oil & gas industry infrastructure & hazards.	0	0	0	0	0	Yes	Licence	0	0	0	UKDeal
FS	0	Wave hub cable route – Cornwall	0			0	Wave hub cable route – Cornwall	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	0
FS	0	OpenStreetMap terrestrial map data	0	0	OpenStreetMap	WGS84	Terrestrial mapping from the OpenStreetMap project (www.openstreetmap.org). Includes roads, waterways, places, railways and natural areas. Covers UK, Ireland, France, Belgium, Netherlands and Norway. Other areas are available to download as necessary.	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	OpenStreetMap
FS	0	TCE Aggregate information	0	ESRI Shapefile	Crown Estate	0	Active Dredging Areas as of 31 July 2008.	0	0	0	0	0	No	Intellectual Property Rights	0	0	0	The Crown Estate
FS	0	EA flood or coastal defence structure	0	ESRI Shapefile	ipdf-Environment Agency	0	EA flood or coastal defence structure.	0	0	0	0	0	Yes	Intellectual Property Rights	0	0	0	Environment Agency

Annex 3 Summary of stakeholder meetings

A3.1. Regional Marine Conservation Zone project engagement with stakeholders outside the formally established stakeholder groups

A3.1. This information was provided to JNCC and Natural England by the regional Marine Conservation Zone projects prior to their closure.

Table 35 Regional Marine Conservation Zone project stakeholder engagement

Activity	Regional MCZ project			
	Finding Sanctuary	Balanced Seas	Net Gain	ISCZ
Individuals who received quarterly newsletter	1694	787	1800	N/A
Total no. of visits to website	29733	22,300	36,263	12,009
Total no. of information gathering interviews conducted	901	720	756	N/A
Interviews with fishermen	257	280	351	176
Interviews with fishing organisations	5	N/A	N/A	N/A
No. of individuals represented	51	N/A	N/A	541
Interviews with conservation and recreational organisations	327	437	405	69
No. of individuals represented	247,382	358,416	N/A	15,207
Total no. of media articles between October 2009 and August 2011	108	N/A	N/A	346
Total no. of instances of radio or television coverage	33	N/A	N/A	N/A
Events held in regional MCZ project area	17	50	c70	10
People contacted at events	505	N/A	c2000	226

Note. This information was not available for all regional MCZ projects and this is indicated by N/A

Annex 4 Further details of the stakeholder engagement process

A4.1. International stakeholder engagement meetings

Regional Advisory Councils

A4.1. JNCC has engaged with the North Sea, North West Waters and the Pelagic Regional Advisory Council (RAC) throughout the Marine Conservation Zone Project, building on relationships developed during earlier years when Natura sites were being consulted upon. The RAC (and its working group) meetings provided an essential opportunity for JNCC to present MCZ Project updates to many Member State fishing industry representatives. JNCC also communicated regularly with the RAC Secretariats to provide MCZ Project updates. The following is a list of RAC meetings that were attended during the period of the MCZ Project so far.

North West Waters RAC

- 19 February 2009 – JNCC presented UK Marine Protected Area (MPA) projects including MCZs to the NWW RAC in Madrid
- 10 March 2010 – JNCC updated the NWW RAC on the UK MPA project (including the MCZ Project) in Madrid. Concern was raised regarding how management was to be undertaken
- 7 July 2010 – JNCC provided an update on the MCZ Project to the NWW RAC in Paris
- 13 April 2011 – JNCC provided an update on the MCZ Project to the NWW RAC in Bilbao (Spain). Concern was raised regarding the number and size of sites
- 28 February 2012 – JNCC provided an update on the MCZ Project to the NWW RAC in Paris. Concern was raised regarding the short time scales and the large amounts of information being produced which non-UK stakeholders needed to process in short time frames.

North Sea RAC

- 16 February 2009 – JNCC presented UK MPA projects including MCZs to the NS RAC in Berlin
- 11 March 2010 – JNCC organised and hosted an NS RAC meeting in London to discuss input into the MCZ Project. Concern was raised regarding how sites would be managed and enforced
- 15 September 2010 – JNCC provided an update on the MCZ Project to the NS RAC in Brussels. Concern was raised regarding the number of sites and methods of getting involved.

Pelagic RAC

- 13 July 2010 – JNCC presented the MCZ Project to the Pelagic RAC in Amsterdam
- 12 April 2011 – JNCC provided an update on the MCZ Project to the Pelagic RAC meeting in Bilbao (Spain).

A4.2. JNCC also attempted to engage directly with fishermen and their representative associations in neighbouring Member States and countries of the UK. The success of this engagement was variable and depended on the willingness of the fishermen and their representatives to discuss

MCZs. The following is a summary of direct international engagement achieved by JNCC during the MCZ Project.

Belgium

A4.3. Belgium has fishing interests in all four regional project areas with representatives involved in the Irish Sea Conservation Zone (ISCZ), Finding Sanctuary and Balanced Seas projects. Despite this, the Belgian fishing sector was restricted in the degree to which it could engage with the MCZ Project due to limited resources. Belgian fisheries representatives from Rederscentrale updated their members on MCZ Project progress through their monthly magazine.

- 17 September 2010 - JNCC met seven fishermen and two fisheries representatives (Rederscentrale) in Oostende. JNCC's presentation contained an introduction to the Project and an explanation of the MCZ process
- 9 August 2011 – JNCC met eight fishermen and two fisheries representatives in Zeebrugge to discuss the third iteration of the MCZ Project outputs. An Impact Assessment questionnaire was also completed by representatives
- 10 August 2011 – JNCC met with a representative from Rederscentrale in Oostende to fill in the stakeholder engagement audit.

Denmark

A4.4. The Danish fishing sector only has fishing interests in the Net Gain area. A Danish representative from Danmarks Fiskeriforening (the Danish Fishermen's Association) also participated in the Net Gain project and attended a Scarborough Hub⁷⁰ meeting. The Danish fishing industry was kept well briefed by its fisheries representatives through articles in the weekly fishing industry newspaper *Fiskeri Tidende*.

- 15 September 2010 – JNCC and a Net Gain representative met with the Danmarks Fiskeriforening in Fredericia, to give an introduction/update on the MCZ Project, explain the process, and to collect fishing activity data within the Project area. Eight fisheries representatives and skippers were present
- 16 September 2011 – JNCC representatives visited Danmarks Fiskeriforening in Fredericia to update the association on the MCZ third iteration. The meeting was attended by two fisheries representatives and a reporter from the Danish Fishermen's Association newspaper. All three Danish representatives contributed to the stakeholder engagement audit and the Impact Assessment questionnaire.

France

A4.5. In general there was positive engagement with the French fishing industry, with several meetings held in France and with representation of the French fleets within the regional projects.

- 31 August 2010 – JNCC and a member of Balanced Seas regional project presented the MCZ Project to the Comité National des Pêches Maritimes et des Elevages Marins (CNP MEM) [French fisheries committee] in Paris in French. The MCZ process and options for getting involved were discussed (approximately 25 individuals were present)

⁷⁰ Net Gain's RSG was split into an overarching stakeholder advisory panel (StAP) and regional 'Hubs' to facilitate engagement of stakeholders with interests in certain regions of the North Sea.

- 20 September 2010 – JNCC provided an MCZ Project update in French to the Comité Régional des Pêches Maritimes et des Elevages Marins (CRPMEM) Calais-Picardie and Euronor⁷¹. The MCZ process and options for getting involved were discussed (approximately 15 individuals were present)
- 27 September 2010 – JNCC provided an MCZ Project update in French to the CRPMEM Bretagne in Rennes (approximately 10 individuals attended). Interest in engaging was shown; however, efforts to engage the Brittany region were not as successful as the project progressed
- 6 April 2011 – Mid-Channel Conference: JNCC presented the MCZ Project at the Mid-Channel Conference in Cherbourg. Representatives of UK, French, Irish and Channel Island fisheries were present (approximately 80 individuals). There was considerable discontent regarding the scale of the recommendations that came out of the second iteration
- 8 August 2011 – JNCC provided an MCZ Project update to the CRPMEM Calais-Picardie and Euronor (approximately five individuals were present). Both the MCZ Impact Assessment questionnaire and the stakeholder feedback audit were completed. Complaints were made regarding the poor communication between the regional projects and French stakeholders
- 22 September 2011 – JNCC provided an MCZ Project update to the CRPMEM Haute and Basse Normandie and Bretagne region in Caen in French. There was concern regarding the number and size of MCZs that had been recommended and concern regarding difficulties in engaging with the regional projects.

A4.6. A representative from the CRPMEM Calais-Picardie became a member of Balanced Seas regional stakeholder group (RSG) and the Lincolnshire/The Wash Net Gain Hub group. A representative of the CRPMEM Haute and Basse Normandie was also involved in some of Balanced Seas and Finding Sanctuary's RSGs towards the end of the project (JNCC was informed by the CRPMEM Basse Normandie that further engagement within Finding Sanctuary's RSGs was requested). The CRPMEM was a named consultative stakeholder (NCS). The Calais-Picardie, Haute and Basse Normandie CRPMEM completed the Impact Assessment questionnaires sent to them (in French). In support of the Impact Assessment questionnaire, the Haute and Basse Normandie CRPMEM also submitted a document summarising its activities and the value of these activities in each MCZ in which its members were active in both the Balanced Seas and the Finding Sanctuary areas. This information was derived from Ifremer⁷² data holdings; access to the password-protected web portal on which the data is hosted had previously been made available to several of the regional projects (but not to JNCC for confidentiality reasons).

Germany

A4.7. A German fisheries representative from Deutscher Fischerei-Verband refused to participate in the MCZ Project as he believed that the Natura 2000 MPAs are the appropriate mechanism to designate European MPAs. The German fisheries representative received regular updates on the progress of the MCZ Project through attendance at the RAC meetings and through update emails.

⁷¹ Euronor is a French fishing company with a number of large demersal vessels under its management. Its fleet of trawlers runs the French quotas in the north of the North Sea, in West Scotland, in Faroe Island waters.

⁷² Ifremer (Institut français de recherche pour l'exploitation de la mer), is a French oceanographic research institute

Republic of Ireland

A4.8. It proved difficult to get engagement with fisheries representatives from Ireland.

- 25 August 2010 – JNCC met with Irish Fisheries representatives during a conference on Fisheries Dependent Information held in Galway. They were given an update presentation on the MCZ Project and it was recommended that they make contact with any MCZ regional projects in which their members had a stake
- 13 January 2012 – JNCC met with Irish Fisheries representatives in Dublin to present the MCZ Project and to encourage them to supply information/data for the Impact Assessment (approximately nine people attended). Attendees expressed concern about the network and their lack of involvement. There was particular concern about the Celtic Deeps (Smalls) site as it is very important to the Irish nephrops fleet.

The Netherlands

A4.9. The Dutch have provided comments to the iterations and fully engaged in the process to help minimise the impact on their fleet. A Dutch representative attended many of the meetings with Marine Protected Areas fishing Coalition (MPAC).

- 11 September 2010 – JNCC and a member of Net Gain met with Visned (a fish producer organisation representing Dutch demersal fisheries) and approximately 20 Dutch skippers to introduce them to the MCZ Project and explain the process. The meeting took place in Ijmuiden
- September 2011 – JNCC met with Visned members and approximately 40 Dutch skippers to update them on the MCZ Project. Some of the skippers were quite upset at the scale of the project and could not understand why it was being rushed. It was agreed that the MCZ Impact Assessment questionnaire would be completed by the Visned representatives following the meeting
- A Dutch representative was involved with the Balanced Seas RSG and, although not on one of Net Gain's RSGs, a representative attended some Hub meetings
- The Dutch fisheries representative has completed the Impact Assessment questionnaire but did not complete the international fisheries feedback audit
- The Dutch have fishing interests in all four of the regional projects and the fisheries representatives have used regular Twitter updates to keep their members up to date with the MCZ Project.

Northern Ireland (and south-west Scotland)

A4.10. Representatives of the Northern Irish and south-west Scottish fleets were engaged directly in the Irish Sea project and were therefore not contacted directly by JNCC.

Scotland

- 8 September 2010 – JNCC met with the Scottish Fishermen's Federation (SFF) in Edinburgh to provide an update on the MCZ Project (approximately 12 attendees). There was general criticism of the standards of evidence being used in the project and of the lack of consideration of displacement issues

- 11 November 2010 – JNCC organised an MCZ fisheries engagement meeting with fishermen from Pittenweem to update them on the MCZ process and encourage participation (approximately 20 individuals attended). The meeting concluded with the fishermen agreeing that the English fishermen in the Net Gain area will be representing them as they fish the same grounds and have the same concerns. JNCC agreed to keep those fishermen up to date on the MCZ process
- 19/11/2010 – JNCC organised an MCZ fisheries engagement drop-in day in Eyemouth for local fishermen to come by and learn more about how they can get involved in the MCZ Project. There was a very poor turnout with the few participants expressing little interest in English MCZs
- 20/11/2010 – JNCC organised an MCZ fisheries engagement drop-in day in Anstruther for local fishermen to come by and learn more about how they can get involved in the MCZ Project. Due to the composition of the local fleet, there was little interest in the English MCZ Project.

Spain

A4.11. The Spanish fishing industry was engaged through NWW RAC meetings. Direct engagement with the Spanish fishing industry did not take place during the regional MCZ project phase despite numerous attempts from JNCC. Further communications were made in Spanish through emails and telephone calls by JNCC.

- 13 April 2011 – Spanish fisheries representatives were quite outspoken about not being involved in the MCZ Project during the Pelagic RAC and NWWRAC meetings in Bilbao (Spain) but on the other hand they failed to follow through with requests for involvement
- In December 2011, Spanish fishing cooperatives from Galicia (Puerto de Celeiro, Asociación Armadores de Buques de Pesca en El Gran Sol [ANASOL], Organización de Productores de Pesca de Altura del Puerto de Ondárroa [OPPAO] and Organización de Productores Pesqueros de Lugo [OPP-7]) completed the MCZ Impact Assessment questionnaire provided by JNCC. During this period they planned to engage with JNCC in January 2012. However, due to government changes in Spain they were not able to meet. Subsequently a meeting was arranged for 6 June 2012.

Wales

- 21 October 2009 – JNCC and a member of the ISCZ project presented the MCZ Project to the Wales and Coastal Maritime Partnership⁷³. Concern was raised regarding how this would fit in with the Welsh MCZ project
- 7/4/2011 - JNCC presented an MCZ Project update in Bangor to the Welsh fishing industry (approximately seven people). MPAC was present and contributed to the meeting
- 8/4/2011 - JNCC presented an MCZ Project update in Aberystwyth to the Welsh fishing industry (approximately ten people). MPAC was present and contributed to the meeting. Several concerns were outlined, including the fact that the Welsh Assembly Government should have been more involved in the ISCZ project

⁷³ The Wales Coastal and Maritime Partnership (WCMP) is a non-statutory advisory group that brings together all those with an interest in the marine and coastal environment of Wales.

- 9/4/2011 - JNCC presented an MCZ Project update in Milford Haven to the Welsh fishing industry (approximately seven people). Welsh scallopers felt that they were unfairly overburdened with MPAs in the ISCZ project and that there was little consultation with the Welsh fishing/scalloping industry.

Annex 5 – JNCC and Natural England’s site assessment of the regional Marine Conservation Zone project recommendations against the Ecological Network Guidance

- A5.1. Annex 5 contains the individual site assessments carried out on the regional Marine Conservation Zone project recommendations against the criteria set out within the Ecological Network Guidance (ENG). The detail behind these assessments and the methodology used are set out in [Section 4.1](#) of this document and should be read prior to reading the site assessments within this section.
- A5.2. Each table lists the features which have been recommended for MCZ designation. Please note that any geological or geomorphological features of interest are listed in the site considerations part of the table.

A5.1 Individual site assessments

A5.1.1 Region 1 – Northern North Sea

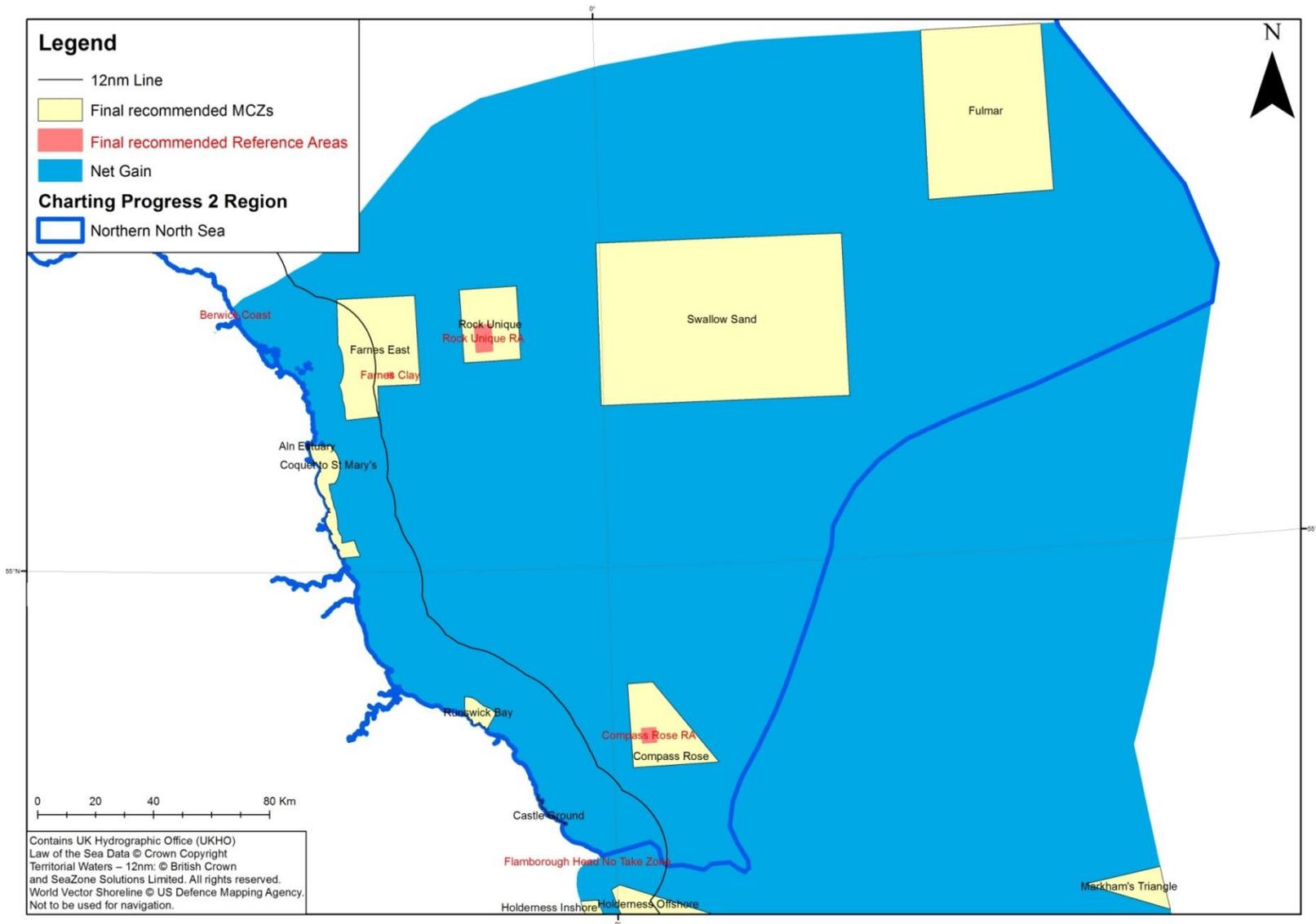


Figure 14 The Northern North Sea regional sea

Site name: NG12 Compass Rose rMCZ and NG RA 10 Compass Rose recommended reference area (Net Gain) (JNCC)

Table 36 An overview of features proposed for designation within Compass Rose rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see [Section 4.2](#)). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Recover	Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of Moderate Energy Circalittoral Rock. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	This feature is not protected within existing MPAs	

Site considerations	
Connectivity	✓ * 1
Geological/Geomorphological features of interest	✓ * 2
Appropriate boundary	✓ * 3
Areas of additional ecological importance	✓ * 4
Overlaps with existing MPAs	None

Table 37 An overview of features within the Compass Rose recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG feature	Representativity	Viability	Recommended conservation objective
Subtidal sands and gravels	FOCI	✓	Recover to reference condition
A4.2 Moderate energy circalittoral rock	BSH	✓	Recover to reference condition
A5.2 Subtidal sand	BSH	✓ * 5	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ¹ Connectivity for European Nature Information System (EUNIS) level 2 circalittoral rock was achieved within this regional MCZ project as far as is possible due to the habitat distribution. This site is within the suggested distance of 80km from its nearest neighbour containing these habitats.
- ⁵ The Compass Rose recommended reference area is viable in size and is predominantly composed of moderate energy circalittoral rock. The patch of subtidal sand within the reference area is very small.

Suggested amendments:

- ³The regional MCZ project recommendations state that the boundary of the site was designed to provide a buffer to account for low confidence in the extent of the moderate energy circalittoral rock (Net Gain 2011a). However, there is scope to adjust the boundary of the site to follow the shape of the rocky broad-scale habitat and thus enclose the feature more tightly. Any changes to the boundaries will be dependent upon the results and availability of evidence from the recent surveys, and will adhere to the guidance on MCZ boundary delineation described in the ENG.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication target for one broad-scale habitat. It contributes the second largest area of moderate energy circalittoral rock out of all of the rMCZs and existing MPAs in the regional MCZ project area. It is for this reason that this site makes a significant contribution towards meeting the adequacy target for moderate energy circalittoral rock. This site also contributes to the representation of moderate energy circalittoral rock within MPAs in the regional MCZ project area, which is currently not protected by existing MPAs. It also complies with the viability and boundary guidelines and contributes to achieving connectivity for the EUNIS Level 2 habitats and complies with the viability guidelines.
- ² Although not proposed for geological/geomorphological features, the site includes transverse and longitudinal bedform features.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - The site is located near the southern boundary between two bio-geographical areas, the Southern and Northern North Sea regions. It has some overlap with the Flamborough Frontal System which creates areas of upwelling at different times of the year (Jones, et al. 2004) and the mixing of the warmer waters of the southern North Sea and the cooler waters of the north Northern Sea. This rMCZ falls within the foraging radii for certain seabird species (RSPB data), and there are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - An analysis of the numbers and distribution of seabirds found that there are low to medium densities of seabirds in general during winter, Atlantic puffin during winter, northern fulmar during winter, common guillemot during breeding and razorbill during breeding; medium densities of great skua during winter, common guillemot during moult and winter, and Atlantic puffin during breeding; and medium to high densities of common gull during breeding and little auk during winter (Kober, et al. 2010).

Implications of this site not being designated:

- The Compass Rose rMCZ makes a significant contribution towards achieving the adequacy guidelines for moderate energy circalittoral rock within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve the adequacy guideline.

Site name: NG 14 Farnes East rMCZ and NG RA 12 Farnes Clay recommended reference area (Net Gain) (JNCC)

Table 38 An overview of features proposed for designation within the Farnes East rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Peat and clay exposures	FOCI	✓	✓	✓	None	Maintain	This feature only has the minimum amount of replicates.		Biodiversity Action Plan (BAP) habitat
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	<i>Maintain</i>	Out of all of the rMCZs and existing MPAs, this site contributes the largest area of Moderate Energy Circalittoral Rock. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	This feature is not protected within existing MPAs.	
A5.1 Subtidal	BSH	✓	✓	✓	None	Maintain * 1			

coarse sediment									
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain ^{* 1}			
A5.3 Subtidal mud	BSH	✓	X ^{* 2}	✓	Minimum adequacy target for this feature has not been met	Recover	Out of all of the rMCZs this site contributes the largest area of subtidal mud. This site makes a significant contribution towards meeting the adequacy target.		
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓ ^{* 3}	None	Maintain ^{* 1}		Only a small proportion of this feature is currently protected within existing MPAs	
Site considerations									
Connectivity				✓ ^{* 4}					
Geological/Geomorphological features of interest				✓ ^{* 5}					
Appropriate boundary				✓ ^{* 6}					
Areas of additional ecological importance				✓ ^{* 7}					
Overlaps with existing MPAs				None					

Table 39 An overview of features proposed for designation within the RA 12 recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Peat and clay exposures	FOCI	✓	Recover to reference condition
Subtidal sands and gravels	FOCI	✓	Recover to reference condition
A4.2 Moderate energy circalittoral rock	BSH	X * ⁸	Recover to reference condition
A5.2 Subtidal sand	BSH	X * ⁹	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ¹⁰		

Additional comments:

- ¹ Pending further discussion between Natural England and JNCC.
- ² The adequacy ENG target for the broad-scale habitat subtidal mud has not been achieved within this regional MCZ project area, although there are examples of this habitat in the regional MCZ project area.
- ^{3,8,9} The site is viable for the features that are proposed for designation, however the patch of subtidal mixed sediment is very small. The recommended reference area is not considered viable in size for the two broad-scale habitats.
- ⁴ Connectivity for European Nature Information System (EUNIS) level 2 circalittoral rock was achieved within this regional MCZ project as far as is possible due to the habitat distribution. This site is within the suggested distance of 80km from its nearest neighbour containing these habitats and contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitat.
- ⁶ The boundary for the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. There has only been a small margin provided between the southern boundary of the rMCZ and the FOCI peat and clay exposures.
- ¹⁰ Due to the small size of the recommended reference area the boundaries will not include a suitable margin.

Suggested amendments:

- The boundary of the rMCZ may need further refinement to provide a better margin of protection if more evidence on the presence and extent of the FOCI peat and clay exposures becomes available.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of one FOCI and five broad-scale habitats, one of which has not met the adequacy target set. It contributes the largest area of moderate energy circalittoral rock and the largest area of subtidal mud out of all of the rMCZs and existing MPAs in the regional MCZ project area. It is for this reason that this site makes a significant contribution towards meeting the adequacy target for moderate energy circalittoral rock and makes a significant contribution to the area of subtidal mud which has not met the adequacy target set.
- This site also contributes to the representation of moderate energy circalittoral rock within MPAs in the regional MCZ project area, which is currently not protected by existing MPAs, and subtidal mixed sediments, where only a small proportion of this habitat is currently protected. It also provides one of the only three examples of the FOCI peat and clay exposures recommended for designation within the regional MCZ project. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ⁵ Although this rMCZ is not proposed directly for its geological or geomorphological features of interest, the southern extent of the site overlaps with the Farnes Deep geological feature. In addition there are depositional glacial moraines in the north of the rMCZ. This area also includes the limit of the most-recent ice age maximum natural extent.
- ⁷ There are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This site overlaps with an area of medium species biodiversity and an area of medium benthic biotope biodiversity (Langmead, et al. 2010).
 - This area (both rMCZ and recommended Reference Area) is identified as important for marine mammals and many bird species.
 - Within this rMCZ there are records for sightings of basking sharks in the south (which is relatively uncommon in the North Sea) and it falls within the foraging radii for certain seabird species data for seabirds (RSPB data). There are also nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - An analysis of the numbers and distribution of seabirds found that this is an important area for seabirds. There are low to medium densities of seabirds in general during winter, of northern gannet during winter, of pomarine skua during spring and autumn, Arctic skua during breeding, common guillemot during breeding, and of razorbill all year; medium densities of northern gannet during breeding, great skua during winter, great black-backed gull during winter, kittiwake all year, Arctic terns during breeding, an common guillemots during winter; medium to high densities of seabirds in general during the summer, Arctic skua during breeding and common guillemot during moult; and high densities of Atlantic puffin during winter, great black-backed gull during breeding in the south-west of the area, Sandwich tern during breeding in the south-west of the area, and Atlantic puffin during breeding at the south-west of the area (Kober, et al. 2010).
 - The Net Gain recommendations state that there has been a large number of cetacean sightings within this area and it is thought that the deep water Farnes Deep geological feature could provide a breeding area for white-beaked dolphins, although there is no firm evidence of this (Bereton, et al. 2010) as referenced in (Net Gain 2011a)).
 - In addition the some part of the site seems to have some importance as foraging grounds for grey seals and for wintering seabirds, particularly auks (Bereton, et al. 2010), with the areas of high seabird density evident from the European Seabirds at Sea (ESAS) data, in particular for puffins (Kober, et al. 2010).

- Peat and Clay exposures have been identified as promoting species diversity and forming species habitats, for example, burrowing piddocks and associated unique microhabitats (Fletcher, et al. 2012).

Implications of this site not being designated:

- The Farnes East rMCZ makes a significant contribution towards achieving the adequacy guidelines for subtidal mud and moderate energy circalittoral rock, and the replication guidelines for the FOCI peat and clay exposures and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve these guidelines. This has added importance in the case of subtidal mud which it is already failing to meet the minimum adequacy target.

Site name: NG17 Fulmar rMCZ (Net Gain) (JNCC)

Table 40 An overview of features proposed for designation within Fulmar rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Ocean quahog <i>Arctica islandica</i>	FOCI	X * 1	X * 2	✓	The minimum target for replication for this feature has not been met	Maintain		This feature is not protected within existing MPAs	OSPAR species
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Maintain			BAP habitat
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain		Out of all of the rMCZs, this site contributes the second largest area of subtidal sands	

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	✓
Areas of additional ecological importance	✓ * ³
Overlaps with existing MPAs	None

Additional comments:

- ¹ Fulmar rMCZ provides one of two replicates of *Arctica islandica* in the regional MCZ project area. Currently the minimum recommended number of replicates for this feature has not been met within this regional MCZ project area. There is potential for other sites within the Northern North Seas biogeographic region to contain replicates of this feature, as *Arctica islandica* is a MPA search feature for the Scottish MPA project.
- ² As the replication guideline has not been achieved for *Arctica islandica* the recommendations also fail to meet the guidelines on adequacy for this FOCI.

Suggested amendments:

- None.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of two FOCI and two broad-scale habitats and it contributes the second largest area of subtidal sand out of all of the rMCZs in the regional MCZ project area. Furthermore, it contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines. This site represents only one of two sites within the regional MCZ project area that recommends the FOCI *Arctica islandica*, an OSPAR listed species, as a feature for designation, which is currently not protected by existing MPAs. Fulmar rMCZ could potentially be a significant contributor of subtidal sand for the UK MPA network in the Northern North Sea regional sea.
- ³ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This site overlaps with an area of high species biodiversity (Langmead, et al. 2010).
 - Within this rMCZ there are records for sightings of basking sharks (Marine Conservation Society and the Shark Trust data) and marine mammals, and the rMCZ falls within the foraging radii for certain seabird species (RSPB data). There are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - An analysis of the numbers and distribution of seabirds found that there are low to medium densities black-headed gull during breeding and black-legged kittiwake during breeding; medium densities of seabirds in general during summer, of northern fulmar during breeding, Arctic skua during breeding and common guillemot during winter; and high densities of Arctic skua during winter (Kober, et al. 2010).

Implications of the site not being designated:

- The Fulmar rMCZ provides one of only two replicates of *Arctica islandica* in this regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is not only failure to achieve the replication guidelines but also falling even further short of achieving this guideline.

Site name: NG 15 Rock Unique rMCZ and NG RA 13 Rock Unique recommended reference area (Net Gain) (JNCC)

Table 41 An overview of features proposed for Rock Unique rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Maintain			BAP habitat
4.3 Low energy circalittoral rock * 1	BSH	✓ * 2	✓	✓	None	Maintain	Out of all of the rMCZs and existing MPAs, this site contributes the largest and only area of low energy circalittoral rock. This site makes a significant contribution towards meeting the lower level adequacy and replication guidelines for this feature within the regional MCZ project area.	Only site proposed for this feature within the region. This feature is not protected within existing MPAs. This feature has limited distribution.	This feature has limited distribution in the whole MCZ project area. This feature is not protected within existing MPAs in the Northern North Sea Regional Sea.

A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain			
Site considerations									
Connectivity				✓ * 3					
Geological/Geomorphological features of interest				✓ * 4					
Appropriate boundary				✓					
Areas of additional ecological importance				✓ 5					
Overlaps with existing MPAs				None					

Table 42 An overview of features within Rock Unique recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Subtidal sands and gravels	FOCI	✓	Recover to reference condition
A4.3 Low energy circalittoral rock	BSH	✓	Recover to reference condition
A5.1 Subtidal coarse sediment	BSH	✓	Recover to reference condition
A5.2 Subtidal sand	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ¹ Low energy circalittoral rock has been proposed as a feature for designation, however there is some uncertainty surrounding its presence, following recent survey work. However as the data are yet to be fully analysed we have continued to consider it in the assessment of this feature in relation to the ENG guidelines (see [Section 5.1](#)).
- ² Low energy circalittoral rock is not present in any existing MPAs in this regional MCZ project area and has limited distribution in the MCZ project area as a whole. The feature is only present in Rock Unique rMCZ, and therefore there is no scope to replicate the designation of this feature in this regional MCZ project.
- ³ Connectivity for European Nature Information System (EUNIS) level 2 circalittoral rock was achieved within this regional MCZ project as far as is possible due to the habitat distribution. This site is within the suggested distance of 80km from its nearest neighbour containing these habitats and also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitat.

Suggested amendments:

- Further to the analysis of data gathered on recent survey, the inclusion of low energy circalittoral rock as a feature for designation in this site may need reconsidering (see comment above).

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines for one FOCI and three broad-scale habitats. It contributes the largest and only area of low energy circalittoral rock and makes a significant contribution towards meeting the adequacy target for this habitat, This site also contributes to the representation of low energy circalittoral rock within MPAs in the regional MCZ project area and the northern north sea region, where only a small proportion of this habitat is currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ⁴ The site is not put forward specifically for geological/geomorphological features, but it contains depositional glacial features and the topographic feature of the North-East Bank seabed mound or pinnacle.
- ⁵ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ falls within the foraging radii for certain seabird species (RSPB data) and there are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - The Net Gain site selection assessment document highlights this area as important for cetaceans all year round including dolphins, minke and humpback whales, and as an important foraging area for grey seals ((Evans, Anderwald and Baines 2003), (Bereton, et al. 2010), as referenced in (Net Gain 2011a)).
- An analysis of the numbers and distribution of seabirds found that there are low to medium densities of seabirds in general during summer and winter, of black-legged kittiwakes during winter, of common guillemot during moult and winter, and of little auk during winter; medium densities of northern gannet all year, and of great skua during winter; and high densities of northern fulmar during winter (Kober, et al. 2010).

Implications of the site not being designated:

- If further work verifies the presence and extent of the low energy circalittoral rock the Rock Unique rMCZ will make a significant contribution towards meeting representativity, replication and adequacy guidelines for this broad-scale habitat which is limited in distribution across the MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve these guidelines.

Site name: NG 16 Swallow sands rMCZ (Net Gain) (JNCC)

Table 43 An overview of features proposed for designation within Swallow sands rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Subtidal sands and gravels	FOCI	✓	✓	✓	None	<i>Maintain</i>			BAP habitat
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain		Out of all of the rMCZs, this site contributes the second largest area of subtidal coarse sediment	
A5.2 Subtidal sand	BSH	✓	✓	✓	None	<i>Maintain</i>		Out of all of the rMCZs, this site contributes the largest area of subtidal sands	Out of all of the rMCZs, this site contributes the largest area of subtidal sands in the whole MCZ project area

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	Glacial Process features: North Sea glacial tunnel valleys (Swallow Hole) * ¹
Appropriate boundary	✓
Areas of additional ecological importance	✓ * ²
Overlaps with existing MPAs	None

Additional comments:

- *Arctica islandica* was not proposed as a feature for designation within this rMCZ, but there is evidence to indicate that this species may be present in this site. If the presence of this feature was verified it could be put forward as a feature for designation in order to meet the lower level target for replication in this regional MCZ project. There is potential for other sites within the Northern North Seas biogeographic region to contain replicates of this feature, as *Arctica islandica* is a MPA search feature for the Scottish MPA project.

Suggested amendments:

- None

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines for one FOCI and two broad-scale habitats. It contributes the largest area of subtidal sand out of all of the rMCZs within both the regional MCZ project area and the whole MCZ project area. It also contributes the second largest area of subtidal coarse sediment out of all of the rMCZs in the regional MCZ project area. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ¹ The site is proposed for designation for Glacial Process features, in particular, North Sea glacial tunnel valleys (Swallow Hole). The site also includes some geomorphological features such as the East Bank Ridges tidal bank, and some transverse bedforms.
- ² Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ falls within the foraging radii for certain seabird species (RSPB) and there are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - An analysis of the numbers and distribution of seabirds found that there are low to medium densities of seabirds in general during summer and winter, northern gannet during breeding, great skua during winter, Arctic tern during winter in the east of the area, and common guillemot during winter; medium densities of little auk during winter; medium to high densities of Atlantic puffin during winter, common tern during breeding in the east of the area; and high densities of black-legged kittiwake during in the north-east of the area (Kober, et al. 2010).

Implications of the site not being designated:

- If this site is not taken forward for designation, there is still scope to achieve the ENG guidelines for the features listed for designation at this site, within the remaining rMCZs and existing MPAs in this region.
- If this site is not taken forward to designation the connectivity in EUNIS Level 2 sublittoral sediment will be reduced within the Northern North Sea area of the regional MCZ project area.

Site name: rMCZ NG 10 Castle Ground (Net Gain) (Natural England lead)

Table 44 An overview of features proposed for designation within rMCZ NG 10 Castle Ground and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓ * 1	✓ * 1	✓ * 2	None	Maintain	Only two replicates of this BSH in the MPA network (only one in rMCZs).The site is needed to meet adequacy guidelines	Limited distribution throughout the region and across English waters more widely	Limited distribution throughout the region and across English waters more widely
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 2	None	Maintain			
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 2	None	Maintain			
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 2	None	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓	✓ * 2	None	Maintain			
A2.3 Intertidal mud	BSH * 3	✓	✓	✓ * 2,3	None	<i>Recover</i>	Not a true representative of the intertidal mud BSH		

Intertidal underboulder communities	FOCI Habitat	✓	✓	✓ * 4	None	Maintain			UK BAP
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 5, 6					
Areas of Additional Ecological Importance				✓ * 7, 8, 9					
Overlaps with existing MPAs				✓ * 10					

Additional comments:

- ¹ The minimum adequacy and replication target for BSH High energy intertidal rock have only just been met with this site,
- ² The site does not reach the minimum viability criteria (5km²) for the intertidal BSH, however due to the linear nature of the intertidal zone they are considered viable through the maximum diameter only (which is in excess of 12km in length).
- ³ Although the site itself is considered large enough to support viable intertidal habitats, the intertidal mud within this site is restricted to an isolated area (0.02km²) within the harbour walls at Scarborough and so there is little conservation value in including it. Furthermore, it is Natural England’s view that this feature is not a true representative of the intertidal mud broadscale habitat type and advise that the boundary is redrawn to clip it from the site.
- ⁴ Viability for the FOCI habitat Intertidal underboulder species is dependent on a patch diameter (0.5km) which is met in this case. The full extent of intertidal underboulder communities is within the rMCZ and will be protected.
- ⁵ The site boundary meets the basic criteria set out in the ENG. However, the northern part of site is subject to high levels of modification, through both existing and planned development, and the beach at South Bay in Scarborough undergoes a beach management regime which involves moving accumulations of sand from the Northern part of the beach to an area in front of Scarborough Spa. It is unlikely that there is significant nature conservation interest in this area. The northern boundary could be moved south to rocky habitat at south bay to aid the management of the site, though this may have some implications on stakeholder support as restricting the site to the intertidal area led to increased support from the Net Gain stakeholder group.
- ⁶ The Net Gain stakeholder group explored the possibility of extending the site further, but restricting the site to the intertidal area led to increased support from the Net Gain stakeholder group.
- ⁷ Intertidal underboulder communities are UK BAP.
- ⁸ Filey Brigg in the south of the site is noted as an area of high species abundance and the contrast between the exposed north side of the Brigg and the sheltered southern site provides interesting comparison. The softer sediment around the southern side of Filey Brigg is also thought to be a nursery ground for juvenile plaice (Hull 1995).

- ⁹ The site includes foraging habitat for wintering purple sandpiper (protected under the Wildlife and Countryside Act (Schedule 5)) which is a feature of both Cayton Cornelian and South Bays SSSI and Filey Brigg SSSI, and turnstone, which is also a feature of the Cayton Cornelian and South Bays SSSI.
- ¹⁰ The site overlaps with the following SSSIs: Filey Brigg; Cayton, Cornelian and South Bays; North Bay to South Toll House Cliff; Gristhorpe Bay and Red Cliff and Iron Scar and Hundale Point to Scalby Ness. The all of these SSSIs are designated for their geological interest with the exception of Filey Brigg which also has ornithological interest features and Cayton Cornelian and South Bays which also has ornithological, botanical and invertebrate interest features.
- It is important to note reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small and Natural England is advising to remove them from the listing which impacts replication. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (see **Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.

Suggested amendments:

- ³ Although the site itself is considered large enough to support viable intertidal habitats, the intertidal mud within this site is restricted to an isolated area (0.02km²) within the harbour walls at Scarborough and so there is little conservation value in including it. Furthermore, it is **Natural England's view that this feature is not a true representative of the intertidal mud broadscale habitat type and advise that the boundary is redrawn to clip it from the site.**
- ⁵ The site boundary meets the basic criteria set out in the ENG. However, the northern part of site is subject to high levels of modification, through both existing and planned development. The beach at South Bay in Scarborough undergoes a beach management regime which involves moving accumulations of sand from the Northern part of the beach to an area in front of Scarborough Spa. It is unlikely that there is significant nature conservation interest in this area. **To aid the management of the site, the northern boundary could be moved south to include rocky habitat at south bay, though this may have some implications on stakeholder support as restricting the site to the intertidal area led to increased support from the Net Gain stakeholder group.**

Summary of site benefits:

- This site is important to ensure minimum guidelines for adequacy and replication of A1.1 High energy intertidal rock are met.
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK. This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion.
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries (Fletcher, et al. 2012).
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational

fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos (Fletcher, et al. 2012).

- Underboulder communities are entirely different from those communities present on the tops and sides of boulders. The interstitial spaces form microhabitats greatly add to shoreline biodiversity providing opportunity for education and research. The shade, moisture and sheltered conditions offer habitat to species which would otherwise not survive the harsh conditions. The habitat provides niches for a range of encrusting species, sponges, bryozoans (sea mats), and ascidians (sea squirts; refuge for young shellfish, and predator protection for fish species such as blennies (Fletcher, et al. 2012).

Implications of the site not being designated:

- There would be a shortfall in the adequacy and replication for A1.1 High Energy intertidal rock which is has a limited distribution across the UK.
- Although regional connectivity would be met, connectivity between intertidal rocky habitats would be reduced.

Site name: rMCZ NG 11 Runswick Bay (Net Gain) (Natural England lead)

Table 45 An overview of features proposed for designation within Runswick Bay rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replica- tion	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A3.1 High energy infralittoral rock	BSH	✓	✓	✓	None	Maintain	Second largest area recommended within MCZs.	Adequacy met mainly through rMCZs with only a small proportion in existing MPAs	
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓	None	Maintain	One of only two examples of this habitat within MCZs (no examples within existing MPAs)	No examples within existing MPAs, therefore adequacy and replication is only met through the rMCZs	
A4.1 High energy circalittoral rock	BSH	✓	✓	✓	None	Maintain	Only example of this within rMCZs, only one other example within existing MPAs		Data shows that there is less of this BSH in the NG region than the others.
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Maintain		There are no examples of this BSH within existing MPAs.	
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			

A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Maintain			
Ocean quahog <i>Arctica islandica</i>	FOCI Species	X * 1	X	✓	This feature has not met the ENG target for replication	Maintain	This feature has not met the ENG target for replication	One of two examples for this feature recommended for designation	UK BAP
Site considerations									
Connectivity				✓ * 6					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 2					
Areas of Additional Ecological Importance				✓ * 3, 4					
Overlaps with existing MPAs				✓ * 5					

Additional comments:

- ¹ There are only two replicates of the FOCI species *Arctica islandica* listed for Net Gain area, and a limited number in the whole country. However, there are numerous other examples in NG area, and at least three within other rMCZs. Natural England advise that further exploration of inclusion of these could be undertaken, though the socio-economic impact is not understood.
- ² Boundaries coincident with North East Inshore Fisheries and Conservation Authority (NEIFCA) Prohibited Trawl Area. Net Gain have drawn the boundary of this site to Mean High Water Mark although no intertidal features have been recommended, but nor were they considered because the project felt they had sufficiently met the network criteria for these broad-scale habitats. Although this was initially a mapping error (as it should have been drawn to the Mean Low Water Mark), Net Gain stakeholders have subsequently indicated that they would support the inclusion of intertidal features within the site (LGM 2011) which is part of the North Yorkshire and Cleveland Heritage Coast, on the assumption that the recommended management of the site would not change.
- ³ Rocky habitats within this site are important for meeting ENG guidelines for replication and adequacy.
- ⁴ The distribution of soft sediment BSH across this site may not be fully reflected by the BSH modelling. Level 2 A5 habitats are likely to have a broader distribution across the site, creating a mosaic of A4 and A5 subtidal habitats that are likely to contribute to the site’s pelagic and benthic biodiversity.
- ⁵ The site incorporates Runswick Bay and Staithes-Port Mulgrave SSSIs which are notified for the geological interest features.
- ⁶ Runswick Bay rMCZ is important for MPA network connectivity in the Net Gain Region.

- It is important to note reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small and Natural England is advising to remove them from the listing which impacts replication. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.

Suggested amendments:

- ¹ There are only two replicates of the FOCI species *Arctica islandica* listed for Net Gain area, and a limited number in the whole country. However, there are numerous other examples in NG area, and at least three within other rMCZs. **Natural England advise that further exploration of inclusion of these could be undertaken, though the socio-economic impact is not understood.**
- ² Boundaries coincident with North East Inshore Fisheries and Conservation Authority (NEIFCA) Prohibited Trawl Area. Net Gain have drawn the boundary of this site to Mean High Water Mark although no intertidal features have been recommended, but nor were they considered because the project felt they had sufficiently met the network criteria for these broad-scale habitats. **Although this was initially a mapping error, as it should have been drawn to the Mean Low Water Mark, Net Gain stakeholders have subsequently indicated that they would support the inclusion of intertidal features within the site (LGM 2011) which is part of the North Yorkshire and Cleveland Heritage Coast, on the assumption that the recommended management of the site would not change.**
- ² Boundaries coincident with NEIFCA Prohibited Trawl Area. Net Gain have drawn the boundary of this site to MHWm although no intertidal features have been recommended but nor were they considered by the Net Gain stakeholders because the project felt they had sufficiently met the network criteria for these broad-scale habitats. **Net Gain stakeholders have subsequently indicated that they would support the inclusion of intertidal features within the site (LGM 2011) which is part of the North Yorkshire and Cleveland Heritage Coast.**

Summary of site benefits:

- Adjacent to North Yorkshire and Cleveland Heritage Coast and the North York Moors National Park.
- Site aligns with an existing prohibited trawl area (PTA). It is believed that this site demonstrates a higher level of species abundance and diversity inside the PTA than outside.
- This site includes an example of A4.1 which is less abundant in the other regional project areas.
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon.
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).

- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- The upper adequacy guidelines have not been met for A3.1 High energy infralittoral rock and this site includes the second largest example. Therefore there may be a shortfall in this habitat type should the site not be designated
- There would be a shortfall in meeting replication for A4.1 High energy circalittoral rock if this site was not designated. This habitat is less abundant in the other project areas.
- Minimum replication target for A3.2 Moderate energy infralittoral rock would not be met
- Replication has not been met for *Arctica Islandica* (ocean quahog) so without this site the shortfall would be further increased.
- Connectivity in the region would not be met without this site, there would be a particularly large distance specifically for rocky habitats.
- There would be no reference area in the Net Gain region for the FOCI underboulder communities or the BSH high energy intertidal rock and low energy intertidal rock.
- In addition, Natural England does not believe that the patch of moderate energy intertidal rock within rRA9 is of a viable size, in which case rRA11 would be the only reference area for this feature as well.

Site name: rMCZ NG 13 Coquet to St Mary’s (Net Gain) (Natural England lead)

Table 46 An overview of features proposed for designation within Coquet to St Mary’s and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain		This site contributes over 50% of the total area of this BSH in MCZs	
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain		This site contributes over 50% of the total area of this BSH in MCZs	
A2.2 Intertidal sand and muddy sand	BSH	✓	✓	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓ * 1	None	Maintain			

A3.1 High energy infralittoral rock	BSH	✓	✓	✓	None	Maintain	This site is important in reaching adequacy guidelines for this BSH, and contributes over 50% of the total area in MCZs.	Only a small proportion of this feature is currently protected within existing MPAs.	This is the largest area of this BSH recommended in whole MCZ project area.
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓	None	Maintain		This feature is not protected within existing MPAs.	This is the second largest area of this BSH recommended in whole MCZ project area.
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Maintain		This feature is not protected within existing MPAs	
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain			
A5.3 Subtidal mud	BSH	✓	X * 3	✓	This region has not met the ENG target for this BSH.	Maintain	This region has not met the ENG target for this BSH		
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Maintain			
Intertidal underboulder communities	FOCI Habitat	✓	✓	✓ * 2	None	Maintain			UK BAP

Site considerations	
Connectivity	✓ * 15
Geological/Geomorphological features of interest	None
Appropriate boundary	✓ * 4
Areas of Additional Ecological Importance	✓ * 5, 6, 7, 8, 9, 10, 11, 12, 13
Overlaps with existing MPAs	✓ * 14

Additional comments:

- ¹ The site does not reach the minimum viability criteria (5km²) for the intertidal BSH, however due to the linear nature of the intertidal they are considered viable through maximum diameter only (In excess of 30km in length).
- ² All occurrences of intertidal underboulder communities within the site are protected.
- ³ This region has not met the ENG target for this BSH, however there is probably considerably more subtidal mud available within the region.
- ⁴ The eastern boundary of site is clipped to 3nm limit in the northern and southern areas to aid management, and to the eastern limit of BSH A3.2, removing an area of concern for fisheries stakeholders, which increased levels of support from NET GAIN stakeholders without compromising the wider network. The uneven central boundary line could, potentially, be simplified by using straight lines without including any additional areas of seabed of concern for fisheries stakeholders, therefore not affecting stakeholder support.
- ⁵ The rMCZ is within mean foraging radii of seabirds species from Coquet Island SPA/SSSI, notably puffin, roseate tern, common tern, Arctic tern, sandwich tern. Coquet Island is the only regular nesting site for roseate tern (UK BAP, OSPAR, Annex I species) in the UK (English Nature 2004).
- ⁶ The waters adjacent to Coquet Island are used by foraging, loafing and rafting eider, a SSSI interest feature, and the Northumberland Coast more generally is of national importance for wintering eider (as per Northumberland Shore SSSI citation, (Natural England Natural England web site)).
- ⁷ European Seabirds at Sea data shows moderate-high densities of birds during the breeding season (Stone 1995).
- ⁸ The rMCZ is within identified critical habitat for white-beaked dolphin and minke whale. Also, the area is known to be used by other cetaceans, many of which are on the UK BAP list including the harbour porpoise (UK BAP, OSPAR list of Threatened and/or Declining Species and Habitats, Annex II species).
- ⁹ The site is used by pinnipeds, including the common seal and grey seal, which are Annex II species (English Nature 2004).
- ¹⁰ The rMCZ is within identified spawning areas for plaice and sand eel, and nursery areas for cod, ling, anglerfish and sand eel (English Nature 2004).
- ¹¹ Site also has two records of the species FOCI ocean quahog with several more in adjacent areas. Ocean quahog could be considered as an additional species for this site, particularly since the Net Gain region is not currently meeting the replication requirement (3 - 5 sites) for this feature. Ocean quahog is listed on the OSPAR list of Threatened and/or Declining Species and Habitats.
- ¹² The site has several point records as well as modelled data areas for BSH Subtidal sand and gravel. Subtidal sands and gravels could therefore be considered as an additional habitat FOCI feature of the site.

- ¹³ The distribution of soft sediment BSH across this site may not be fully reflected by the BSH modelling. Level 2 A5 habitats are likely to have a broader distribution across the site, creating a mosaic of A4 and A5 subtidal habitats that are likely to contribute to the site's pelagic and benthic biodiversity. Furthermore, this means the patches of A5 habitats present in the site are likely to have higher viability than currently indicated.
- ¹⁴ Partial overlap with 9 SSSIs, 2 SPAs and one Ramsar site.
- ¹⁵ For this site, regional advisers consider connectivity to be met due to the high level of designations along the Northumberland coast, and proximity of NG13a)
- It is important to note reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small and Natural England is advising to remove them from the listing which impacts replication. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.

Suggested amendments

- ⁴ The rMCZ is generally a sound boundary. The eastern boundary of site is clipped to 3nm limit in the northern and southern areas to aid management and sea users, and to the eastern limit of A3.2 BSH in between – removing an area of concern for fisheries stakeholders, which increased levels of support from NET GAIN stakeholders for the rNG13 without compromising the wider network. **The uneven central boundary line could, potentially, be simplified by using straight lines without including any additional areas of seabed of concern for fisheries stakeholders**, therefore not affecting stakeholder support.

Summary of site benefits:

- Protects 2 BSH not currently protected by existing MPAs, and one BSH with low current levels of protection in existing MPAs.
- Largest area of 1 BSH in the whole MCZ project – A3.1 high energy infralittoral rock
- Second largest area of 1 BSH in the whole MCZ project – A3.2 moderate energy infralittoral rock
- Contains over 50% of the total amount of 3 BSH within Net Gain rMCZs
- Includes subtidal mud, a BSH currently failing to meet the adequacy criteria in the Net Gain region.
- Intertidal underboulder habitat FOCI present
- An area of high additional ecological importance, particularly for foraging seabirds and for marine mammals
- The intertidal underboulder community is on the UK List of Priority Species and Habitats (UK BAP).
- Potential to include ocean quahog as a feature and therefore meet adequacy requirement for this species.
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries (Fletcher, et al. 2012).

- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).
- Subtidal sediment (includes BSH EUNIS CODES A5.1–A5.4) provides important nursery grounds for many ecologically and commercially important fish which in turn support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012)

Implications of the site not being designated:

- Minimum adequacy target for BSH A3.1 high energy infralittoral rock in the Net Gain region would no longer be met, and there would be a significant shortfall, as this is the largest area of BSH A3.1 high energy infralittoral rock in the whole MCZ project.
- A biodiverse area with relatively higher additional ecological importance would not be protected.

Site name: rMCZ NG 13a AIn Estuary (Net Gain) (Natural England lead)

Table 47 An overview of features proposed for designation within the AIn Estuary how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.3: Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain		This site contributes over 50% of the total area of this BSH in MCZs	
A2.5: Coastal salt marshes	BSH	✓ * 9	✓	✓ * 1	None	Maintain		This site contributes over 50% of the total area of this BSH in MCZs	
A3.1: High Energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Maintain			
Estuarine rocky habitat	FOCI Habitat	✓	✓	✓ * 2	None	Maintain			UK BAP
Sheltered muddy gravels	FOCI Habitat	✓	✓	✓ * 2	None	Maintain			UK BAP

Subtidal sands and gravels	FOCI Habitat	✓	✓	✓ * 2	None	Maintain				UK BAP
Site considerations										
Connectivity				✓ * 3						
Geological/Geomorphological features of interest				None						
Appropriate boundary				✓						
Areas of Additional Ecological Importance				✓ * 4, 5, 6, 7						
Overlaps with existing MPAs				✓ * 6, 8						

Additional comments:

- ¹ The site does not reach the minimum viability criteria (5km²) for the BSH within the estuary, however the entire estuary unit is contained within the rMCZ, so due to its natural geographic boundary this rMCZ is considered to be viable for all BSHs.
- ² Viability for the FOCI habitats Estuarine rocky habitat, Sheltered muddy gravels, and Subtidal sands and gravels, is dependent on patch diameter (0.5km). In some cases, viability in the intertidal has been considered where this is met in linear length alone, and this is met here so is considered viable.
- ³ For this site, regional advisers consider connectivity to be met due to the high level of designations along the Northumberland coast, and proximity of rMCZ NG13a.
- ⁴ The existing SSSI in the estuary comprises a diverse range of salt marsh species (Net Gain 2011b).
- ⁵ The site includes a recently created managed realignment site which is being colonised by salt marsh species.
- ⁶ The existing SSSI is for wintering waders – inclusion of non-designated intertidal habitat will confer protection on adjacent areas which may have value as roosting or foraging sites for SSSI wintering waders.
- ⁷ Also, as referenced in Regional Project reports estuarine and salt marsh habitat can support spawning and nursery areas (Net Gain 2011b). The Environment Agency (EA) is not currently monitoring fish in the Aln Estuary so no data is available.
- ⁸ Partial overlap with existing SSSIs–Alnmouth Salt marsh and Dunes, and Northumberland Shore.
- ⁹ The BSH Coastal salt marshes and saline reedbeds only has three replicates in rMCZs and recommended reference areas, however there are 16 replicates within all MPAs within Net Gain regional project areas.
- It is important to note reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small and Natural England is advising to remove them from the listing which impacts replication. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.

Summary of site benefits:

- Estuarine coastal salt marsh has a relatively limited distribution in the English part of the Northern North Sea Regional Sea (NNSRS) area. Coastal salt marsh habitat is identified in the UK BAP.
- There is a high degree of Net Gain stakeholder consensus for this site
- Intertidal mud is a highly productive ecosystem and is an important feeding ground for wading and migratory birds that is available all year round. This habitat plays a crucial role in primary biomass production through the biofilm made up of microalgae at the air-mud interface. Intertidal mudflats are desirable areas for carbon storage due to the higher sedimentation rates than some other habitats such as freshwater wetlands (Fletcher, et al. 2012).
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The International Union for Conservation of Nature (IUCN) states that salt marshes are “critical components to future carbon management discussions and strategies (Fletcher, et al. 2012).

Implications of the site not being designated:

- Estuarine coastal salt marsh, which has a limited distribution in the English NNSRS area, would not be protected at this location.
- Without this site the sheltered muddy gravels FOCI would only meet the minimum replication target.

Site name: rRA NG 11 Berwick Coast (Net Gain) (Natural England lead)

This recommended reference area is not within an rMCZ, so has been treated as a standalone rMCZ when assessing viability, adequacy and replication.

Table 48 An overview of features proposed for designation within the Berwick Coast rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓	✓	X * 2	See comments below	Reference condition		Site is relatively inaccessible compared to other stretches of open coast so more likely to be undisturbed/non-damaged.	
A1.2 Moderate energy intertidal rock	BSH	✓	✓	X * 2	See comments below	Reference condition		Site is relatively inaccessible compared to other stretches of open coast so more likely to be undisturbed /non-damaged.	

A1.3 Low energy intertidal rock	BSH	✓	✓	X * 2	See comments below	Reference condition		Site is relatively inaccessible compared to other stretches of open coast so more likely to be undisturbed/non-damaged.	
Intertidal under-boulder communities	FOCI Habitat	✓	N/A	✓	See comments below	Reference condition		Site is relatively inaccessible compared to other stretches of open coast so likely to be undisturbed/non-damaged.	UK BAP
A5.1 Subtidal coarse sediment * 1, 3	BSH	✓	✓	X * 2	See comments below	Reference condition	This BSH should not be included in the rRA as the site is intertidal.		
Subtidal sands and gravels * 1, 3	FOCI Habitat	✓	N/A	✓	See comments below	Reference condition	This FOCI should not be included in the rRA as the site is intertidal.		UK BAP
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 3					
Areas of Additional Ecological Importance				N/A * 4					
Overlaps with existing MPAs				✓ * 5					

Additional comments:

- ¹ It is important to note that this, and other reference areas, were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small in the Net Gain region, and in those instances the area is highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites. These smaller

features were included in the replication and adequacy assessments by Net Gain regional project. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.

- ² The site does not reach the minimum viability criteria (5km²) for the BSH High energy intertidal rock, Moderate energy intertidal rock, Low energy intertidal rock, Subtidal coarse sediment. This site is particularly small (approx 0.2 x 2.5km).
- Although viability is not met, it should be noted that this is the only recommended reference area for the intertidal BSH A1.1 high energy intertidal rock, A1.3 low energy intertidal rock and FOCI habitat intertidal underboulder community. This site was selected due to its relative inaccessibility which has prevented disturbance to date, and it is highly unlikely that an area 5km long for this habitat could be found anywhere without significant ongoing activity.
- ³ As discussed in point 1, this site was originally intended to include the intertidal area down to the kelp line only, but the subtidal area and features (in grey) have been included as a result of mapping errors. Natural England advises that higher resolution mapping and survey of the rRA is needed to identify the MLWS (Mean Low Water Spring) line as the seaward boundary, and removal of the subtidal habitat features in order to increase stakeholder support for the site.
- ⁴ Due to its relative inaccessibility, the recommended reference area may provide scientifically-important baseline data, for example, undisturbed biotopes.
- ⁵ The recommended reference area is situated within a large Special Area of Conservation (SAC), the Berwickshire and North Northumberland Coast European marine site.

Suggested amendments:

- ³ As discussed in point 1, this site was originally intended to include the intertidal area down to the kelp line only, but the subtidal area and features (in grey) have been included as a result of mapping errors. **Natural England advises that higher resolution mapping and survey of the rRA is needed to identify the MLWS (Mean Low Water Spring) line as the seaward boundary, and removal of the subtidal habitat features in order to increase stakeholder support for the site.**
- **Some of the additional features added into the reference area are particularly small. These areas are highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites.**

Summary of site benefits:

- Due to its relative inaccessibility compared with other rocky shores, the recommended reference area has the potential to be managed successfully as a reference area. The reference area may be close to/at reference condition.
- Reference area is well supported by Net Gain stakeholders
- The intertidal underboulder community is on the UK List of Priority Species and Habitats (UK BAP).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).

- Underboulder communities are entirely different from those communities present on the tops and sides of boulders. The interstitial spaces form microhabitats greatly add to shoreline biodiversity providing opportunity for education and research. The shade, moisture and sheltered conditions offer habitat to species which would otherwise not survive the harsh conditions. The habitat provides niches for a range of encrusting species, sponges, bryozoans (sea mats), and ascidians (sea squirts; refuge for young shellfish, and predator protection for fish species such as blennies (Fletcher, et al. 2012).

Implications of the site not being designated:

- There would be no reference area in the Net Gain region for the FOCI Intertidal underboulder communities, or BSH Low energy intertidal rock, and low energy intertidal rock.
- There would be no reference area in the Net Gain region for the FOCI underboulder communities or the BSH high energy intertidal rock and low energy intertidal rock.
- In addition, Natural England does not believe that the patch of moderate energy intertidal rock within rRA9 is of a viable size, in which case rRA11 would be the only reference area for this feature as well.

A5.1.2 Region 2 – Southern North Sea

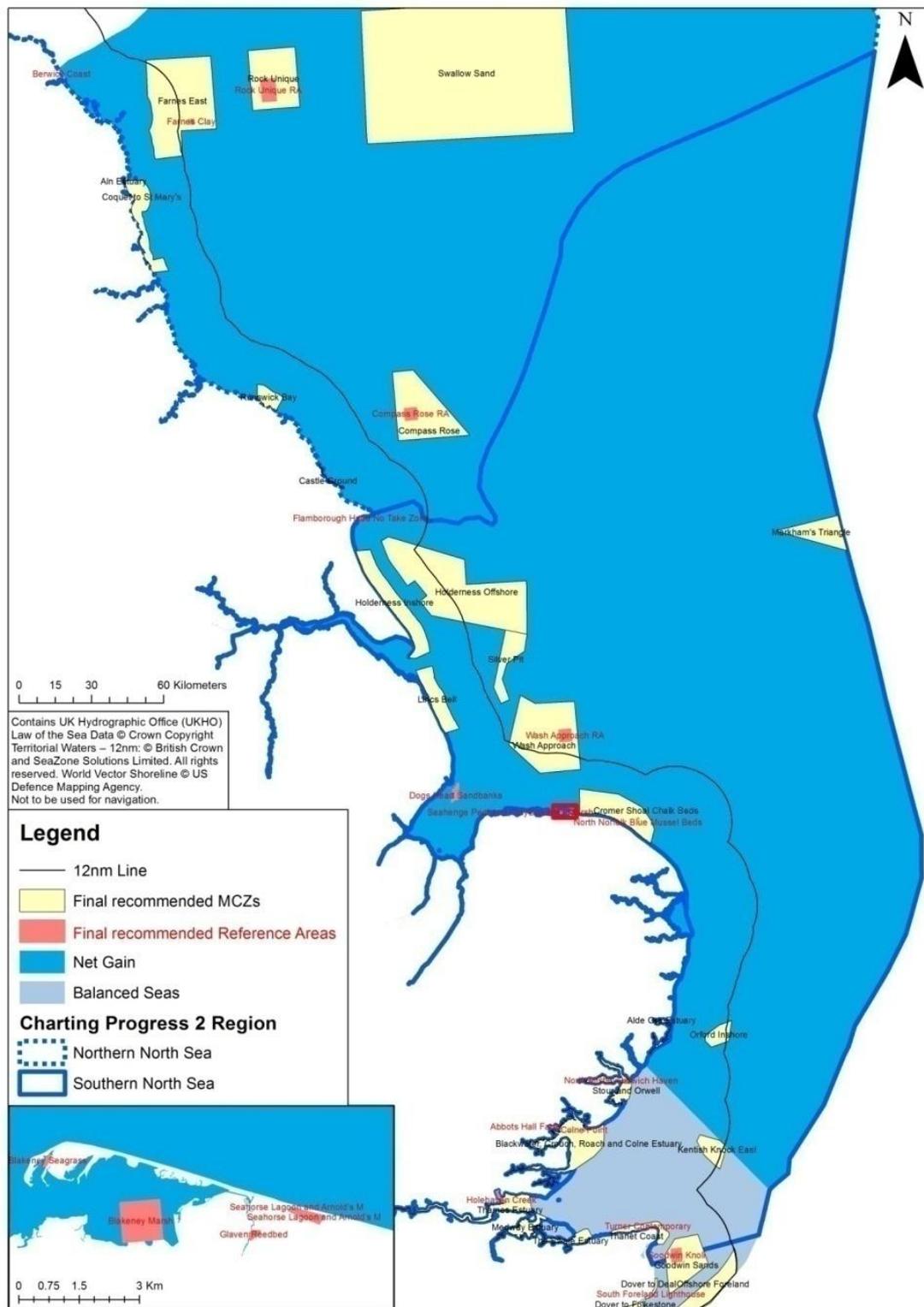


Figure 15 The Southern North Sea regional sea

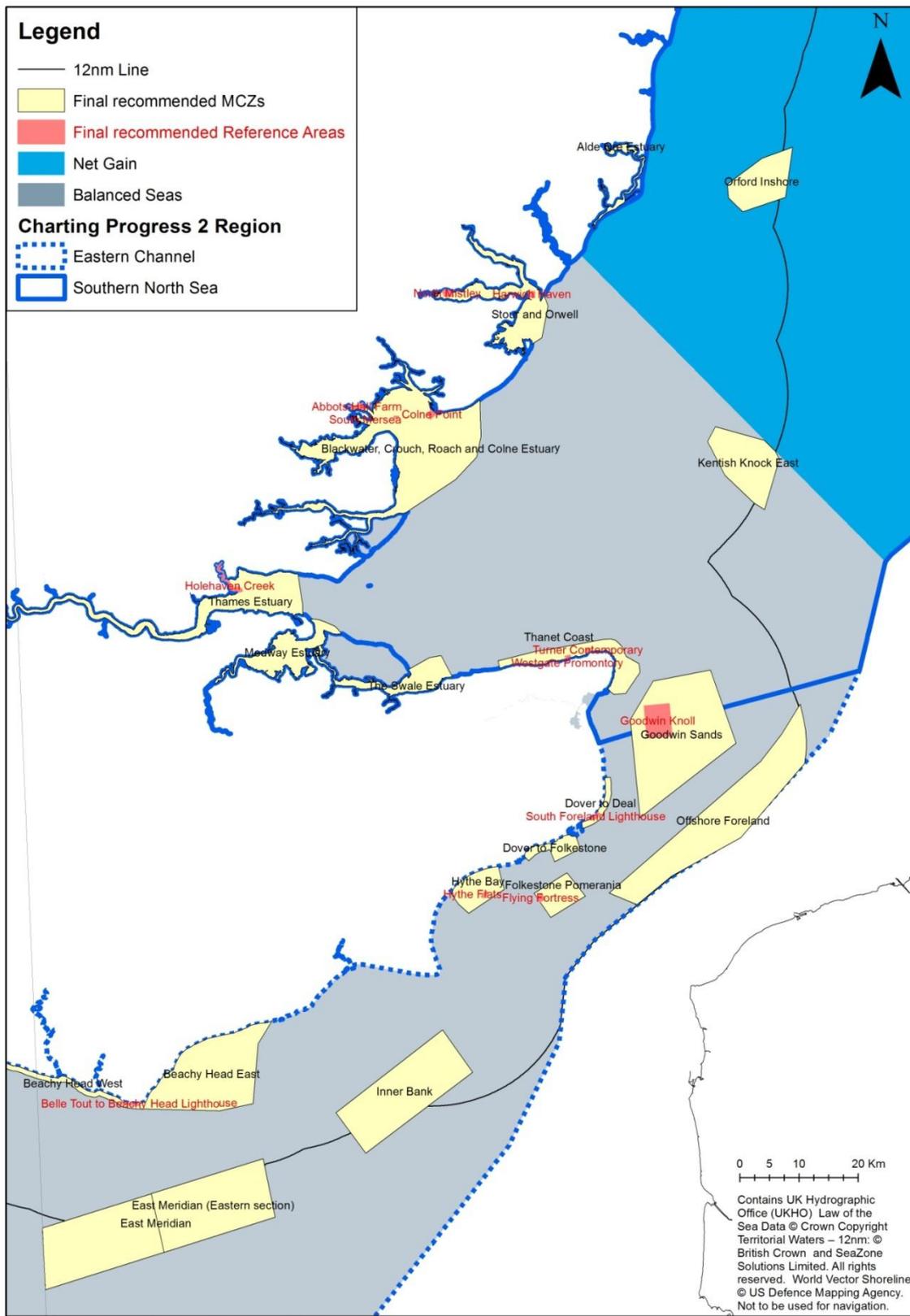


Figure 16 The southern extent of the Southern North Sea regional sea

Site name: NG 09 Holderness Offshore rMCZ (Net Gain) (JNCC)

Table 49 An overview of features proposed for designation within the Holderness Offshore rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Recover			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover	Out of all of the rMCZs this site contributes the largest area of subtidal mixed sediment towards meeting the ENG target for adequacy. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	Only a small proportion of this BSH is currently protected within existing MPAs	

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	✓ * ¹
Appropriate boundary	✓ * ²
Areas of additional ecological importance	✓ ³
Overlaps with existing MPAs	None

Additional comments:

- ² The boundary for the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. As this site has been proposed for broad-scale habitats it has been drawn around a discrete area of extensive broad-scale habitat whilst avoiding an area for a planned renewable energy development. The boundary of this rMCZ adjoins another rMCZ known as Silver Pit, with which it shares the geological feature known as the Silver Pit. The boundary between the two sites cuts across the geological feature and so it may be more appropriate to remove this artificial boundary between the two sites to combine into one rMCZ. This boundary is a product of the way the Net Gain project area was subdivided into regional hubs. The hub which has proposed the Silver Pit feature as a feature for designation in NG06 Silver Pit rMCZ had recommended the site extend to cover the whole of the geological feature but as this feature was already covered in Holderness Offshore which was located in a different hub these conversations were not progressed (Net Gain 2011a).

Suggested amendments:

- The boundary between this site and adjacent Silver Pit rMCZ could be removed as it is only an artefact of how the Net Gain area was split into regional hubs. In addition the Silver Pit geological feature which is shared by both rMCZs could be put forward as a feature for designation within this site so that the whole feature is afforded protection.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of two broad-scale habitats. It contributes the largest area of subtidal mixed sediment and makes a significant contribution towards meeting the adequacy target for this habitat. This site also contributes to the representation of subtidal mixed sediment within MPAs in the regional MCZ project area, where only a small proportion of this habitat is currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitat and complies with the viability guidelines.
- ¹ Although not proposed directly as an MCZ for geology/geomorphology, the Glacial Process feature called the Inner Silver Pit crosses the south-east portion of the site. Most of this feature is incorporated as a feature for designation in an adjacent site Silver Pit rMCZ, however compared to some other, more extensive geological features that could be protected in their entirety (such as the English Channel outburst flood feature), this feature would be well-served if included as a contiguous feature and not divided; glacial tunnel valleys are not specifically included elsewhere in the MCZ project area, specifically as recommended features for geology. Its origin and the precise formation mechanisms are not yet completely understood, adding to its conservation value, and in helping to understand the unravelling of the history of ice-age events in the North Sea.

- ³ Areas of additional ecological importance were considered in the identification of this site. There are a number of ecological benefits which could be considered important and add value to this recommendation:
 - The northern extent of the site overlaps with the Flamborough front and area of high pelagic productivity. There have been sightings of marine mammals in the area which are thought to forage trailing the Flamborough front.
 - The regional MCZ project states that the Silver Pit geological feature which is captured within this rMCZ has good species diversity (Net Gain 2011a), and data do show an overlap with an area of high biodiversity (Langmead, et al. 2010).
 - Within this rMCZ there are records for sightings of basking sharks (although this is quite an uncommon occurrence in the North Sea) (Marine Conservation Society and the Shark Trust data). And there are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - This site falls within the foraging radii for certain seabird species (RSPB data), within the mean foraging radii of the following species from the seabird colonies at the Flamborough Head and Bempton Cliffs (SPA and SSSI): northern gannet, northern fulmar, black-legged kittiwake, Atlantic puffin, common guillemot. This, coupled with ESAS data indicating higher than average densities of seabirds in the breeding season and the summer, indicates the site is likely to have value for seabirds associated with the above colonies.
 - An analysis of the numbers and distribution of seabirds shows this as quite an important area for seabirds. The site is north-east of a high density area of Sandwich tern during breeding. There are low to medium densities of herring gull during winter; medium densities of seabirds in general during winter and summer, Arctic skua during breeding in the east of the area, common gull all year, great black-backed gull during winter, black-legged kittiwake during winter, common tern during breeding in the east of the area, Arctic tern during breeding in the west of the area, common guillemot all year, and razorbill during winter and moult. The site has medium to high densities of great skua during winter, little gull during breeding in the north-west of the area, and pomarine skua during spring and autumn; and high densities of Atlantic puffin during winter, northern gannet during winter in the north of the area, Arctic skua during spring, little gull during breeding in the north-west of the area, razorbill during breeding in the west of the area and Atlantic puffin during breeding in the west of the area (Kober, et al. 2010).
 - Important shellfish ground (lobster, edible crab, velvet crab) – which may benefit from increased benthic protection.

Implications of the site not being designated:

- The Holderness Offshore rMCZ makes a significant contribution towards achieving the adequacy guidelines for subtidal mixed sediments within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve the adequacy guideline.

Site name: NG 07 Markhams Triangle rMCZ (Net Gain) (JNCC)

Table 50 An overview of features proposed for designation within Markhams Triangle rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative consideration s at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Recover			
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * ¹					
Appropriate boundary				✓ * ²					
Areas of additional ecological importance				✓ * ³					
Overlaps with existing MPAs				None but adjacent to Cleaver Bank SAC * ⁴					

Additional comments:

- ² The boundary for the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. It also follows relatively closely the edge of the subtidal coarse sediment. It also aligns with the west boundary of the Cleaver Bank SAC within Dutch waters.

Suggested amendments:

- None.

Summary of site benefits:

- This rMCZ contributes to achieving the adequacy and replication guidelines for two broad-scale habitats and it also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ¹ Although this rMCZ is not proposed for its geological or geomorphological features of interest, a very small proportion of the western edge of the site overlaps with the North Sea glacial tunnel valley known as Outer Silver Pit which is a feature listed in the ENG. The site is also intersected by a tunnel valley feature to the north-east. The southern corner of the site covers a small portion of a tidal bank.
- ³ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ falls within the foraging radii for certain seabird species (RSPB data) and there are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - An analysis of the numbers and distribution of seabirds found that there are low to medium densities of seabirds in general during winter, of northern fulmar during winter; medium densities of seabirds in general during summer, of Arctic skua during breeding, of herring gull during winter, great black-backed gull during winter and of common guillemot during winter; and medium to high densities black-legged kittiwakes during breeding (Kober, et al. 2010).
 - ⁴ The site is bordered by a Dutch SAC (Cleaver Bank) and the Outer Silver Pit, a geological/geomorphological valley feature. The regional MCZ project recommendations suggest that both of these areas are known to be productive from an ecological perspective and protecting the area between may be valuable for providing connectivity and could potentially enhance the ecological benefits of both the SAC and the rMCZ (Net Gain 2011a).

Implications of the site not being designated:

If this site is not put forward for designation, there is still scope to achieve the ENG guidelines for the features listed for designation at this site, within the remaining rMCZs (and existing MPAs) in this region.

Site name: NG 06 Silver Pit rMCZ (Net Gain) (JNCC)

Table 51 An overview of features proposed for designation within Silver Pit rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI	✓	✓	✓	None	<i>Maintain</i>			BAP and OSPAR habitat
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Recover			BAP habitat
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover		Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Southern North Sea Regional Sea.

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	Glacial Process feature – Inner Silver Pit * ¹
Appropriate boundary	✓ * ²
Areas of additional ecological importance	✓ * ³
Overlaps with existing MPAs	Inner Dowsing, Race Bank and North Ridge SAC * ⁴

Additional comments:

- ² The boundary of the site follows relatively closely the outer edges of the Inner Silver Pit glacial tunnel valley, a geological feature. The boundary of this rMCZ adjoins another rMCZ known as Holderness Offshore, with which it shares the geological feature. The boundary between the two sites cuts across the geological feature and so it may be more appropriate to remove this artificial boundary between the two sites to combine into one rMCZ. This boundary is a result of the way the Net Gain project area was subdivided into regional hubs. The hub which proposed the Silver Pit feature as a feature for designation recommended the site extend to cover the whole of the geological feature, however as this feature was already covered in another adjacent site NG09 Holderness Offshore which was located in a different hub these conversations were not progressed (Net Gain 2011a).
- ⁴ It is not entirely clear whether the area of subtidal sand broad-scale habitat proposed as a feature for designation within this site is already a feature within the SAC.

Suggested amendments:

- Arctica islandica* could be put forward for designation in Silver Pit, in order to meet the lower level target for replication of this feature.
- The boundary between this site and adjacent Silver Pit rMCZ could be removed as it is only an artefact of how the Net Gain area was split into regional hubs.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines for two FOCI and two broad-scale habitats. This site also contributes to the representation of subtidal mixed sediment within MPAs in the regional MCZ project area and the Southern North Sea region, where only a small proportion of this habitat is currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ¹ The Inner Silver pit was not listed as a geological/geomorphological feature of interest in the ENG, however Net Gain has decided to recommend this as a feature for designation. In addition to being recommended for the Inner Silver Pit, this site also shows the maximum lateral extent of ice during the last glacial period).
- ³ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This site overlaps with an area of high benthic species biodiversity and medium benthic biotope biodiversity (Langmead, et al. 2010).

- Within this rMCZ there are records for sightings of basking sharks (Marine Conservation Society and the Shark Trust data), and the rMCZ falls within the foraging radii for certain seabird species (RSPB data). There are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
- An analysis of the numbers and distribution of seabirds found that there are low to medium densities of seabirds in general during summer, common guillemot during moult and razorbill during winter; medium densities of Atlantic puffin during winter; medium to high densities of sandwich tern during breeding; and high densities of Arctic skua during breeding (Kober, et al. 2010).

Implications:

- If this site is not put forward for designation, there is still scope to achieve the ENG guidelines for the features listed for designation at this site, within the remaining rMCZs (and existing MPAs) in this region.

Site name: NG 04 Wash Approach and NG RA 8 Wash Approach recommended reference area (Net Gain) (JNCC)

Table 52 An overview of features proposed for designation within the Wash Approach rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Maintain * 1			BAP habitat
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain * 1			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Maintain * 1	Out of all of the rMCZs this site contributes the second largest area of subtidal mixed sediment towards meeting the ENG target for adequacy. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Southern North Sea Regional Sea.

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	✓ * 2
Appropriate boundary	✓ * 3
Areas of additional ecological importance	✓ * 4
Overlaps with existing MPAs	Inner Dowsing, Race Bank and North Ridge SAC * 5

Table 53 An overview of features proposed for designation within the RA 8 Wash Approach recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Subtidal sands and gravels	FOCI	✓	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary		✓	

Additional comments:

- ¹ Pending further discussion between Natural England and JNCC.
- ³ The boundary for the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. The site overlaps with an existing SAC and it is not clear in the regional MCZ project recommendations why this decision was made.
- ⁵ It is not entirely clear whether the area of subtidal sand broad-scale habitat proposed as a feature for designation within this site is already a feature within the SAC.

Suggested amendments:

- None.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines for one FOCI and two broad-scale habitats. It contributes the second largest area of subtidal mixed sediment out of all of the rMCZs within the regional MCZ project area and it is for this reason that the site makes a significant contribution towards achieving the adequacy target for this broad-scale habitat. This site also contributes to the representation of subtidal mixed sediment within MPAs in the regional MCZ project area and the Southern North Sea region, where only a small proportion of this habitat is currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ² Although not primarily proposed for geological or geomorphological features, the site includes tidal bank features (sand banks) and glacial depositional features (at the south-east corner) of interest.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This site overlaps with areas of high and medium benthic species biodiversity. The rMCZ and recommended reference area both overlap with an area of high benthic biotope biodiversity (Langmead, et al. 2010).
 - The regional MCZ project recommendations state that this site contains sandbank complexes and the Race Channel creating interesting seabed features (Net Gain 2011a). This rMCZ includes subtidal mixed sediment habitats that are not afforded protection as part of the overlapping Inner Dowsing, Race Bank and North Ridge cSAC designation. The Race Channel has a well-developed epifaunal 'turf' and is highly representative of subtidal mixed sediments.
 - This rMCZ falls within the foraging radii for certain seabird species (RSPB) and there are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).

The area is known as a foraging area for seabirds and seals all year round (Net Gain 2011a). An analysis of the numbers and distribution of seabirds found that the site lies north-east of high density area of common gull during winter. It has low to medium density area of common guillemot during moult and winter, and razorbill during winter; medium density area of pomarine skua during spring and autumn, and Arctic skua during breeding; and high density area of Sandwich tern during breeding (Kober, et al. 2010).

Implications of the site not being designated:

- The Wash Approach rMCZ makes a significant contribution towards achieving the adequacy guidelines for subtidal mixed sediments within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.

Site name: rMCZ NG 1b Orford Inshore (Net Gain) (Natural England lead)

Table 54 An overview of features proposed for designation within Orford Inshore rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover * ¹		Only a small proportion of this feature is captured in existing MPAs	Only a small proportion of this feature is captured in existing MPAs within Southern North Sea – Region 2
Site considerations									
Connectivity				✓ * ²					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * ³					
Areas of additional ecological Importance				✓ * ⁴					
Overlaps with existing MPAs				None * ⁵					

Additional comments:

- ¹ Conservation objective of recover proposed for this feature due to beam trawling activity, supported by Net Gain stakeholders as the site is reduced from its original size.
- ² As the only rMCZ proposed off the Suffolk coastline (existing MPAs are attached to the coast) it is important for connectivity. It is in close proximity to the Balanced Seas project
- ³ The rMCZ was initially larger, however the site reduced in size following Net Gain stakeholder group discussions leading to increased consensus for the site. The eastern boundary of the site aligns with the wind farm (Natural England pers comm).

- ⁴ Plankton surveys show that it is an important site as a nursery and spawning ground for fish. (Net Gain 2011b)
- ⁵ The Outer Thames Estuary SPA is in close proximity, therefore the site **may** be important for wintering Red Throated Diver, an Annex I species, which is on Annex I of the Birds Directive (Natural England 2010b).
- It is important to note reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small and Natural England is advising to remove them from the listing which impacts replication. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.

Summary of site benefits:

- Connectivity (the site links the Net Gain and Balanced Seas project areas).
- Nursery and spawning ground for fish (Coull, Johnstone and Rogers 1998, Net Gain 2011b).
- Plankton surveys show that it is an important site as a nursery and spawning ground for fish (Coull, Johnstone and Rogers 1998, Net Gain 2011a).
- This rMCZ falls within the foraging radii for seabird colonies (RSPB data) and there are also nursery and spawning grounds for a number of fish species (Ellis, et al. 2012).
- Although this site does not have any primary geological or geomorphological features of interest, the rMCZ does host a secondary feature; a sand wave field.
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals. (Fletcher, et al. 2012)

Implications of the site not being designated:

- The site currently meets connectivity (less than 40km between MPA boundaries). Without this site, connectivity would be reduced to the upper 80km limit.

Site name: rMCZ NG 01c Alde and Ore Estuary (Net Gain) (Natural England lead)

Table 55 An overview of features proposed for designation within the Alde and Ore and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Estuarine rocky habitat	FOCI Habitat	✓	N/A	✓ * 1	None	Maintain			UK BAP
Sheltered muddy gravels	FOCI Habitat	✓	N/A	✓ * 1	None	Maintain			UK BAP
Smelt <i>Osmerus eperlanus</i>	FOCI Mobile species	X * 2	N/A	N/A	This feature has not met the ENG target for Replication	Maintain	This is the only site recommended for the protection of smelt within the Net Gain region	Only site proposed for this feature within the region	UK BAP
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				Orfordness GCR					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 3, 4, 5					
Overlaps with existing MPAs				✓ * 6					

Additional comments:

- ¹ Site encompasses the boundary of the entire estuary to the tidal limit, and all occurrences of the FOCI within this site are included and it is considered viable. Currently only point data exists for the FOCI therefore verification of the extent of the habitat features is required.

- ² This is the only replicate for FOCI species smelt *Osmerus eperlanus* listed in the regional project area. However, according to an English Nature Lit Review there may be other estuaries within NG project area which support smelt lifecycle. Presence of Smelt is suggested for the Humber, the Wash, and the Broads and brackish/estuarine waters around Great Yarmouth and Lowestoft (English Nature 2003, Colclough 2010a, Colclough and Scarr 2010, Aria, Kotake and McCarthy 2006).
- ³ The EA have recorded a similar numbers of eel as in this estuary in estuaries in other regional projects which have been recommended as MCZs. Given that there is currently no rMCZ considered for eel in the project area, Natural England advises considering including this UK BAP and OSPAR species (Environment Agency 2012).
- ⁴ The Alde and Ore estuary supports bass, sprat, herring, sand-smelt, sole, flounder, smelt and dab nurseries. Migratory species (salmon, sea trout, eel) are common in these estuaries (Colclough 2010a, Colclough and Scarr 2010).
- ⁵ This site also supports internationally important populations of migratory birds, and assemblages of wetland birds (Stone 1995, Net Gain 2011b).
- ⁶ The rMCZ overlaps with the following sites - Alde, Ore and Butley Estuaries SAC, Orfordness-Shingle Street SAC, Alde-Ore Estuary SSSI, Alde-Ore Estuary Ramsar site and Alde-Ore SPA.
- It is important to note reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small and Natural England is advising to remove them from the listing which impacts replication. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain presented within this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.

Suggested amendment:

- The Net Gain regional project area is below replication for European Eel. **There is evidence that this site does support eel, so including them as a feature is possible, though there would be socio-economic consequences. An overall re-think about which sites to include European Eel across this region is advised.**

Summary of site benefits:

- Site is the only rMCZ identified for smelt in the Net Gain project area.
- Site important for fish nursery and migration.
- The mixed substrata at this site support a diverse range of species (ref Final Recommendations SAD document).
- The two habitat features and smelt are not designated as features of the existing MPAs.
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational

fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos. Estuarine soft sediments support a diverse group of microscopic and macroscopic organisms (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation, there would be no sites within the Net Gain region incorporating smelt.
- Additionally, replication guidelines for smelt are not met in two of the other three regional projects.

Site name: rMCZ NG 02 – Cromer Shoal Chalk Beds (and rRA 01 North Norfolk blue mussel beds) (Net Gain) (Natural England lead)

Table 56 An overview of features proposed for designation within Cromer Shoal Chalk beds and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Subtidal chalk	FOCI Habitat	✓	✓	✓	None	Maintain		This site encompasses some of the best examples of subtidal chalk in the project area and is the only example of this feature within the Southern North Sea.	UK BAP
A3.1 High energy infralittoral rock	BSH	✓	X * 1	✓	None	Maintain		Only a small proportion of this feature is captured in existing MPAs.	
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓	None	Maintain	This site incorporates approx 75% (largest area) of moderate energy infralittoral rock in the Net Gain project area within MPA. This site is needed to meet the lower level target for this feature within the regional MCZ project area.	This feature is not protected within existing MPAs.	

A4.2 Moderate energy circa-littoral rock	BSH	✓	✓	✓ * 2	None	Maintain	Only site proposed for this feature in the Southern North Sea area.	This feature is not protected within existing MPAs.
Site considerations								
Connectivity				✓				
Geological/Geomorphological features of interest				North Norfolk Coast GCR * 3				
Appropriate boundary				✓ * 4a, 4b				
Areas of Additional Ecological Importance				✓ * 5, 6, 7, 8, 9, 10, 11, 12, 13, 14				
Overlaps with existing MPAs				✓ * 15				

Table 57 rRA NG RA 01 North Norfolk Blue Mussel Beds (Net Gain) within rMCZ NG 02. An overview of features proposed for designation within the North Norfolk Blue Mussel Beds, and how these contribute to the ENG guidelines for the regional MCZ project area and at the wider scale

X = below target and ✓ = target achieved. Green cells = Critical or important considerations. Recommended conservation objectives given in italics show where the SNCB have changed the objective from the regional MCZ project recommendation. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Blue mussel beds	FOCI Habitat	✓ * 16	Recover to reference condition
Subtidal chalk (modelled) * 17	FOCI only 0.003km ² in rRA site.	✓ * 17	Recover to reference condition
Subtidal sands and gravels	FOCI Habitat	✓	Recover to reference condition
A3.2: Moderate energy infralittoral rock	BSH	N/A * 18	Recover to reference condition
Site considerations			
Appropriate boundary		✓	

Additional comments:

- ¹ Within the project area the BSH High energy infralittoral rock (A3.1) does not achieve the higher level target for adequacy. The contribution of this site is 2.71km², approximately 2.5% of the total extent of this feature in the regional project area.
- ² The site does reach the minimum viability criteria (5km²). The individual patch size of the high energy infralittoral rock (A3.1) is relatively small, however it is buffered within the MCZ as a whole. The patches of moderate energy circalittoral rock (A4.2) together form a viable unit.

- ³ A portion of the geological GCR site North Norfolk Coast (subtidal) falls into the western end of the rMCZ. 'Trimmingham Subtidal' and 'West Runton Submerged Forest' geological features are not included as the site commences 200m offshore from low water, largely missing these geological features.
- ^{4a} The Net Gain Stakeholder group decided that the landward boundary should commence 200m seawards from low water to allow for coastal defence development and coastal management activity. The concern has resulted in the current boundary potentially excluding a significant portion of the infralittoral chalk (from modelled data), especially between Cromer and Weybourne. It is in Natural England's view that coastal defence works could still occur if the landward boundary were extended to 50m from low water (to include infralittoral chalk).
- ^{4b} There are excellent examples of littoral chalk in the intertidal zone adjacent to NG2, especially between Cromer and Weybourne. There is only one other viable example of protected (intertidal) littoral chalk in existing MPAs in the project area (RA 4 and, MCZ 8 are not likely to be viable) leaving only one current replicate in the network. Therefore MCZ 2 could be extended to include areas of littoral chalk. This would provide protection for this rare habitat. To note, only 2% of Great Britain's coast has intertidal chalk so this opportunity should be taken (BRIG (ed. Ant Maddock) 2008).
- ⁵ Blue mussel beds form within the site (Eastern IFCA 2011). A reference area (RA 1) has been proposed for blue mussel beds within the site.
- ⁶ The subtidal chalk feature forms part of the longest chalk reef in Europe. SeaSearch dives ground-truthed part of the modelled data for subtidal chalk feature (Spray and Watson 2010a, Spray and Watson 2010b).
- ⁷ There is high biodiversity associated with the chalk reef including communities of crustaceans, sponges, squirts and cnidarians found on recent Seasearch surveys at Runton (Spray and Watson, Seasearch 2010b). During the intertidal seaweed and sponge Seasearch surveys, it was noted that seaweed diversity in the site is high and that a unique purple sponge was present at the site.
- ⁸ Within the site there are frequent sightings of small cetaceans and seals (Clark, Doleman and Hoyt 2010) (National Trust 2011). More rarely there are sightings of sunfish and basking shark (Spray, R. 2011, pers. comm.).
- ⁹ The site provides a good foraging area for seabirds. Breeding fulmar is an interest feature of the nearby Weybourne Cliffs SSSI. NG2 will encompass sea with importance for maintenance behaviours, that is, preening, bathing, displaying (MLWM out to 2km) and foraging areas (Holt, et al. 2011).
- ¹⁰ North Norfolk coast as a whole supports nationally important numbers of common scoter (Holt, et al. 2011).
- ¹¹ The rMCZ includes subtidal sands and gravels and peat and clay exposures FOCI which are not proposed for designation.
- ¹² Important spawning ground for dover sole, lemon sole, whiting and sand eel (Net Gain 2011b).
- ¹³ Potentially an important nursery ground for many fish species (as in the adjacent Wash and North Norfolk SAC) (Net Gain 2011b).
- ¹⁴ Discussions commenced between the East of England stakeholders to find a suitable location for a subtidal chalk reference area within this site, however consensus was not achieved, due to time restrictions.
- ¹⁵ Adjoins the Wash and North Norfolk Coast SAC, Beeston Cliffs, East Runton Cliffs, Sidestrand and Trimmington N/A Cliffs, West Runton Cliffs and Weybourne Cliffs SSSI.

Additional recommended reference area comments:

- ¹⁶ Viability for the FOCI habitat blue mussel bed, within the recommended reference area is dependent on patch diameter (0.5km). A 0.5km area encompassing the record(s) is possible within this rMarine Conservation Zone, however it is unclear whether the features remains and it needs to be checked as anecdotal information suggests it no longer exists.
- ¹⁷ It is important to note that this, and other reference areas, were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small in the Net Gain region, and in those instances the area is highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites. These smaller features were included in the replication and adequacy assessments by Net Gain regional project. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.
- ¹⁸ Viability for the BSH Moderate energy infralittoral rock is met as the sites lies within an rMCZ where this habitat is represented on a wider scale.
- The site is landward of the 3 nautical mile limit. A 'no trawl' zone is in place up to the 3 nautical mile limit, preventing disruption of the blue mussel beds within this area and minimising disturbance of the small proportion of the site found outside the 3 nautical mile limit.
- Data for the site came from a recent Eastern Inshore Fisheries and Conservation Authority survey (Eastern IFCA 2011). The EIFCA already monitor the site, and are likely to continue to do so in to the future.
- The site achieved good support from the Net Gain stakeholder group.
- Further information is required to confirm if the blue mussel beds sit over a soft or hard substrate.
- This is the only recommended reference area for , or rMCZ for blue mussel beds in the project area and therefore contributes to meeting the design principles.

Suggested amendments:

- ⁴ The Net Gain Stakeholder group decided that the landward boundary should commence 200m seawards from low water to allow for coastal defence development and coastal management activity. The concern has resulted in the current boundary potentially excluding a significant portion of the infralittoral chalk (from modelled data), especially between Cromer and Weybourne. **It is in Natural England's view that coastal defence works could still occur if the landward boundary were extended to 50m from low water (to include infralittoral chalk) and potentially even include some of the intertidal chalk whilst coastal works carry on in the required area.** There is only one other viable example of protected littoral chalk in existing MPAs in the project area (RA 11, NG 8 is not likely to be viable) leaving only two replicates in the network. Inclusion of littoral chalk in this site would help to increase replication and protect this rare habitat. To note, only 2% of Great Britain's coast has intertidal chalk so this opportunity should be taken (BRIG (ed. Ant Maddock) 2008).
- **Some of the additional features added into the reference area are particularly small. These areas are highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites.**

Summary of site benefits:

- Opportunity to protect this unique and rare example of classic subtidal chalk reef which supports a high diversity of flora and fauna.
- **rRA 01:** is located within rMCZ NG2 and is therefore afforded additional protection and a buffer.
- Site achieved consensus from Net Gain stakeholders (if the conservation objective remains at maintain).
- **rRA 01:** This site avoids existing and planned infrastructure in the area.
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).
- Subtidal chalk is often bored by bivalve molluscs, such as the common piddock *Pholas dactylus* and empty bore holes provide habitat for a range of crevice dwelling animals. In some examples piddock holes have created particularly species rich habitats used by a range of invertebrates, shellfish (crabs), and worm species (Fletcher, et al. 2012).
- Subtidal biogenic reefs such as blue mussel beds play a major role in the global carbon cycle and act as a major store of carbon. These 'living' reefs play an important role in fixing and processing nutrients from the seawater into the benthic environment. Biogenic reefs provide habitat for shellfish and fish which are exploited by the fishing industry and a range of microhabitats for colonisation by other organisms anemones, barnacles, gastropods, starfish and worms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection (Fletcher, et al. 2012).

Implications of the site not being designated:

- Missed opportunity to protect this unique and diverse site composed of rare subtidal chalk.
- The amount of moderate energy infralittoral rock (A3.2) protected within MPAs would be reduced by approx 75% and adequacy guidelines would no longer be met within this MCZ project region, and in addition over the whole MCZ project.
- The BSH High energy infralittoral rock would only meet the minimum replication target in the regional project area, and would be even further from meeting adequacy guidelines within the regional project area.
- **rRA 01:** There would not be a reference area or MCZ, for blue mussel beds in the Net Gain regional project area.

Site name: rMCZ NG 05 Lincs Belt (Net Gain) (Natural England lead)

Table 58 An overview of features proposed for designation within Lincs Belt and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project . Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Maintain			
Peat clay exposures exposures	FOCI Habitat	✓	✓	✓ * 1	None	Maintain			UK list of Priority Species and Habitats (BAP).
Subtidal sands and gravels	FOCI Habitat	✓	✓	✓	None	Maintain			UK list of Priority Species and Habitats (BAP).
Site considerations									
Connectivity				✓ * 2					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 3					
Areas of Additional Ecological Importance				✓ * 4, 5, 6, 7, 8					
Overlaps with existing MPAs				None * 9					

Additional comments:

- ¹ This site may contain representative examples of subtidal peat clay exposures, and Natural England has recommended further survey to determine the extent and quality of this feature. This feature is not protected in existing MPAs
- ² The site is closely linked with NG 8 to the north and provides connectivity between the Lincolnshire coast and The Wash and North Norfolk Coast European marine site.
- The adjacent intertidal zone is part of the Lincolnshire beach replenishment scheme. It should be noted that the EA has advised that beach recharge activity in the intertidal zone does not have an impact on the designated subtidal features of the site.
- ³ The northern boundary of the site is defined by meeting the mouth of the Humber Estuary while the eastern boundary follows the 3nm limit to align with the EIFCA administrative boundary.
- It is important to note reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small and Natural England is advising to remove them from the listing which impacts replication. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.

Summary of site benefits:

- ⁴ The site contains representative examples of inshore sands and gravels and mixed subtidal sediments comprising both coarse and sandy sediment types (Solyanko, et al. unpublished) (Net Gain 2011b).
- ⁵ The benthic habitats support a diversity of benthic and pelagic species.
- ⁶ This site contains spawning grounds for commercially important fish species.
- ⁷ The Lincolnshire coast provides foraging opportunities for little tern, which has a limited foraging range and is an Annex 1 species under the Birds Directive (Allcorn, et al. 2003).
- ⁸ This site is adjacent to a nationally important haul-out and breeding area for the grey seal colony at Donna Nook National Nature Reserve (NNR).
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- The site is important for connectivity between fish spawning areas along the Lincolnshire coast and important fish nursery grounds within The Wash and North Norfolk Coast European marine site (Coull, Johnstone and Rogers 1998, Rogers, Millner and Mead 1998).
- The site is important for replication of subtidal peat and clay exposures and subtidal sands and gravels as FOCI within the MPA network.
- Peat and clay exposures are not protected within existing MPAs.

Site name: rMCZ NG 08 Holderness Inshore (Net Gain) (Natural England lead)

Table 59 An overview of features proposed for designation within Holderness Inshore and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓	None	Maintain	This provides the largest contribution of this BSH out of all the rMCZs		
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain			
Peat clay exposures	FOCI Habitat * 1	✓	✓	✓ * 1	None	Maintain		All replicates occur within rMCZs	UK BAP
Subtidal chalk	FOCI Habitat * 1	✓	✓	✓ * 1	None	Maintain			UK BAP
Subtidal sands and gravels	FOCI Habitat	✓	✓	✓	None	Maintain			UK BAP
Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	✓	✓	✓	None	Maintain			UK BAP/ OSPAR

Site considerations	
Connectivity	✓ * 2
Geological/Geomorphological features of interest	Spurn Head GCR * 3
Appropriate boundary	✓ * 4
Areas of Additional Ecological Importance	✓ * 5, 6, 7, 8
Overlaps with existing MPAs	✓ * 3, 9, 10

Additional comments:

- ¹ Viability for the FOCI habitats Peat and clay exposures, and Subtidal chalk, are dependent on patch diameter (0.5km). A 0.5km area encompassing the records is possible within this rMCZ, however it is unclear whether the habitat available will support this feature. The rMCZ recommendation is based on limited data, and extent and quality is uncertain. Furthermore, the underlying geology of this site is chalk which is covered by an extensive till sheet at least 10-15m thick (the basement till is dark olive-grey, chalk-bearing, gritty silty clay), which is in turn overlain by spreads of sand, gravel and cobbles commonly <1m thick (Evans *et al*). Although there is unlikely to be expanses of exposed subtidal chalk within the site, it is possible that the data for peat and clay exposures and subtidal chalk relates to areas where the basement till has become exposed, and this needs to be checked (Evans, et al. 1998).
- ² Connectivity is met due to the site's proximity to NG9, NG5, The Humber Estuary European marine site and Flamborough Head European marine site.
- ³ This rMCZ includes Spurn Head geological feature, a unique example of a dynamic spit system which is currently protected (Geological SSSI, SAC/SPA/RAMSAR and NNR). The offshore element of the Spurn Head Geological feature incorporates a moraine ridge formed of glacial deposits, known as the Binks. This ridge traps sediment resulting from the erosion of the Holderness Coast allowing the formation and maintenance of the spit whilst protecting it from the waves and tidal currents that would wash it away, or prevent it from forming in the first place (IECS 1994).
- ⁴ The boundary has been largely drawn in line with the Holderness Coast PTA, with a slight extension to the south in order to capture the Spurn Head geological feature. There is scope to join this site with neighbouring sites NG5 and NG9, however, maintaining the boundary as it stands increases stakeholder support for the site. As the Holderness coast is subject to significant erosion, further consideration should be given to the landward boundary in order to ensure that the intertidal features are captured or alternatively, the exclusion of intertidal features from this site could be considered.
- ⁵ Includes foraging area for the little tern which is an Annex 1 species under the Bird Directive and has a limited foraging range (Allcorn, et al. 2003).
- ⁶ Inherent Conservation value - includes FOCI – Subtidal Chalk, Subtidal Sands and gravels, Peat and Clay exposures, *Sabellaria spinulosa*.
- ⁷ Supports a high abundance of commercial shellfish species such as *Homarus gammarus* (lobster), *Cancer pagurus* (edible crab) and *Necora puber* (velvet crab) (J. H. Allen 2008).
- ⁸ Site mainly comprises coarser mixed sediment made up of cobbles, pebbles, gravel and boulders with a varying silt content. There is potentially cobble/stony reef within the site which is known to support a wide range of species (J. H. Allen 2008).

- ⁹ The southern end of NG 8 includes small portions of the Humber Estuary SAC, SPA and SSSI. The site also includes geological SSSIs Dimlington Cliffs, Withow Gap, and Skipsea, and lies adjacent to The Lagoons SSSI.
- ¹⁰ The Spurn Head spit currently receives protection as a SSSI geological feature, is part of the Humber Estuary SAC/SPA/Ramsar and it is also a NNR managed by Yorkshire Wildlife Trust. These designations only extend down to the MLWM so this proposal would allow for the protection of the offshore element of the geological feature.
- ¹¹ Currently a large area in the southern part of the site (68.4km²) has not been included in the recommended designation. This is because Net Gain's original data indicated this area was subtidal coarse sediment, and subtidal mixed sediment was only identified at a late stage of the process. As the upper adequacy target for subtidal mixed sediment has not been met we advise considering that this is included as a feature of the site and we believe that the Net Gain stakeholders would support this, based on the assumption that this would not lead to additional management requirements (based on the discussion at the Net Gain's Large Group Meeting July 2011, Natural England adviser pers comms).
- It is important to note reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small and Natural England is advising to remove them from the listing which impacts replication. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.

Suggested amendments:

- ⁴ The boundary has been largely drawn in line with the Holderness Coast PTA, with a slight extension to the south in order to capture the Spurn Head geological feature. There is scope to join this site with neighbouring sites NG5 and NG9, however, maintaining the boundary as it stands increases stakeholder support for the site. As the Holderness coast is subject to significant erosion, **further consideration should be given to the landward boundary in order to ensure that the intertidal features are captured or alternatively, the removal of intertidal features from this site could be considered.**
- ¹¹ Currently a large area in the southern part of the site (68.4km²) has not been included in the recommended designation. This is because Net Gain's original data indicated this area was subtidal coarse sediment, and subtidal mixed sediment was only identified at a late stage of the process. **As the upper adequacy target for subtidal mixed sediment has not been met Natural England advises considering that this is included as a feature of the site and we believe that the Net Gain stakeholders would support this, based on the assumption that this would not lead to additional management requirements** (based on discussions at Net Gain's Large Group Meeting July 2011).

Summary of site benefits:

- As an existing PTA the site may already have undergone an element of recovery and may include examples of natural/non-damaged habitat. As a result of this existing management the site is widely supported by Net Gain stakeholders.
- The supports important commercial shell fish grounds which may benefit from increased benthic protection.
- The Spurn Head geological feature is a unique example of a shingle spit and supports a range of conservation interest.

- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support birds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Offshore, sand and gravel habitats support internationally important fish and shellfish fisheries. This habitat is an important area for crab and echinoderms (for example, starfish and brittlestars) (Fletcher, et al. 2012).
- Biogenic reefs such as *Sabellaria spinulosa* play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonisation by other organisms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection (Fletcher, et al. 2012).

Implications of the site not being designated:

- Replication may not be met for FOCI habitats without this site.
- The offshore element of the Spurn Head geological feature would not be protected.

Site name: rRA NG 02a and rRA NG 02b - Seahorse Lagoon and Arnold’s Marsh (Net Gain) (Natural England lead).

This recommended reference area is not within an rMCZ, so has been treated as a standalone rMCZ when assessing viability, adequacy and replication.

Table 60 An overview of features proposed for designation within RA2a and2b and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Starlet sea anemone <i>Nematostella vectensis</i>	FOCI Species	✓ * 4	✓	✓ * 1	None	Recover to Reference Condition		This is the only MPA for this species in the Net Gain region	UK BAP Nationally scarce
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 2					
Areas of Additional Ecological Importance				None					
Overlaps with existing MPAs				✓ * 3					

Additional comments:

- ¹ The site encompasses three lagoons. The rRA sits within a larger area containing approx 20 lagoons.
- ² The boundary should be remapped to ordnance survey (OS) master map, and should only include the lagoons (not the surrounding land). The public footpath which runs along the bank bisecting 2 of the lagoons should not form part of the reference area, and therefore this site will remain in 2 parts.
- ³ This site overlaps with North Norfolk Coast SAC, SPA, SSSI, Ramsar site and is located within the Norfolk Wildlife Trust’s Cley Marshes Reserve.
- ⁴ This is the only known location for this species as it has a limited distribution, therefore replication target is met as all possible known examples are included. However, it is likely there are other examples not yet identified within the regional project area.

- It is important to note that this, and other reference areas, were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small in the Net Gain region, and in those instances the area is highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites. These smaller features were included in the replication and adequacy assessments by Net Gain regional project. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (see **Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.
- Data exists to confirm the presence of the feature within the lagoons (Natural England pers comms).
- Starlet sea anemones are protected as an Annex 1 habitat under the Habitats Directive within the North Norfolk Coast SAC and are nationally scarce, listed as Vulnerable on the IUCN Red list.

Suggested amendment:

- ² **The boundary should be remapped to OS master map, and should only include the lagoons (not the surrounding land).** The public footpath which runs along the bank bisecting 2 of the lagoons should not form part of the reference area, and therefore this site will remain in 2 parts.

Summary of site benefits:

- This site provides a suitable reference area for the starlet sea anemone in the North Sea project area.
- The site achieved good consensus from the Net Gain stakeholder group and is supported by the Norfolk Wildlife Trust who manage the reserve.

Implications of the site not being designated:

- The site contributes to the Net Gain Project achieving the requirements of the ENG, therefore its exclusion would impact on this.

Site name: rRA NG 03 - Glaven Reedbed (Net Gain) (Natural England lead).

This recommended reference area is not within an rMCZ, so has been treated as a standalone rMCZ when assessing viability, adequacy and replication.

Table 61 An overview of features proposed for designation within Glaven reedbed and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.5 Coastal salt marshes and saline reedbed	BSH	✓ * 2	N/A	X * 1	This site has not met the target for viability	Recover to Reference Condition	This site has not met the target for viability	The reedbeds support a number of important birds	Reedbeds support IUCN Red list birds.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 3					
Areas of Additional Ecological Importance				N/A					
Overlaps with existing MPAs				✓ * 4					

Additional comments:

- ¹ The site does not reach the minimum viability criteria (5km²) for the BSH Coastal salt marshes and saline reedbed. Some coastal sites have been considered due to their natural geographic boundary, but in this case, the site only protects a small portion of the feature and is therefore considered unviable.

- ² The BSH Coastal salt marshes and saline reedbeds only has three replicates in rMCZs and recommended reference areas, however there are 16 replicates within all MPAs within Net Gain regional project areas.
- It is important to note that reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small in the Net Gain region, and in those instances the area is highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites. These smaller features were included in the replication and adequacy assessments by Net Gain regional project. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.
- ³ We advise that the boundary is remapped using OS Master map with the southerly and western limits to Mean High Water, eastern limit to base of flood defence.
- ⁴ This site overlaps with the Wash and North Norfolk Coast SAC, the North Norfolk Coast SAC, SPA, SSSI and Ramsar site and is located within the Norfolk Wildlife Trust's Cley Marshes Reserve.
- The site is supported by the Net Gain stakeholder group and Norfolk Wildlife Trust who manage the land, however better, larger examples of this feature do exist within the project area where viability is more likely to be achieved.
- A low level of wildfowling activity does currently take place within the site and surrounding area.
- This site was highlighted in the Flood Risk and Coastal Erosion Management work as being at risk from future coastal change (ref Impact Assessment). This could impact on the long-term potential for this feature to achieve reference condition.

Suggested amendments:

- ³ **We advise that the boundary is remapped using OS Master map with the southerly and western limits to MHW, eastern limit to base of flood defence.**
- The site is supported by the Net Gain stakeholder group and Norfolk Wildlife Trust who manage the land, **however better, larger examples of this feature do exist within the project area where viability is more likely to be achieved.**

Summary of site benefits:

- The site contributes to the Net Gain Project achieving the requirements of the ENG for reference areas.
- This site incorporates a small portion of saline reedbed, which is listed as UKBAP habitats. Reedbeds are amongst the most important habitats for birds in the UK and support a distinctive breeding bird assemblage (Hawke and Jose 1996) (Net Gain 2011b).

Implications of the site not being designated:

The site contributes to the Net Gain Project achieving the requirements of the Ecological Network Guidance. Also to note, even though there are two salt marshes within reference areas in the site, this one is actually a saline reedbeds – not salt marsh.

Site name: rRA NG 04 - Blakeney Marsh (Net Gain) (Natural England lead).

This recommended reference area is not within an rMCZ, so has been treated as a standalone rMCZ when assessing viability, adequacy and replication.

Table 62 An overview of features proposed for designation within Blakeney Marsh and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓ * 2	N/A	✓ * 3	None	Recover to reference condition			The salt marshes of North Norfolk have been described as the finest coastal marshes in Great Britain (Steers, 1946b).
A2.2 Intertidal sand and muddy sand * 1	BSH only 0.04km ² within site	✓	✓	X * 4	None	Recover to reference condition	Feature too small to be of value		
A2.3 Intertidal mud * 1	BSH only 0.03km ² within site	✓	✓	X * 4	None	Recover to reference condition	Feature too small to be of value.		
Littoral chalk communities * 1, 5	FOCI Habitat	X * 6	X	✓ * 5, 6	None	None	Feature does not occur in the site, and therefore replication is at its minimum.		

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	North Norfolk Coast GCR * ⁸
Appropriate boundary	✓ * ^{7, 8}
Areas of Additional Ecological Importance	✓
Overlaps with existing MPAs	✓ * ⁹

Additional comments:

- ¹ It is important to note that this, and other reference areas, were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small in the Net Gain region, and in those instances the area is highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites. These smaller features were included in the replication and adequacy assessments by Net Gain regional project. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.
- This reference area was proposed for the main feature A2.5 Coastal Saltmarsh. BSH A2.2 intertidal sand and muddy sand, and A2.3 intertidal mud, are present within the site, but in very small amounts.
- ² The BSH Coastal salt marshes and saline reedbeds, only has three replicates in rMCZs and recommended reference areas, however there are 16 replicates within all MPAs within Net Gain regional project areas.
- ³ Although this feature is below recommended guidelines for BSH viability, the Science Advisory Panel (SAP) have commented that at almost 1km² it would still have benefits within the network. This is also supported within the guidance document NECR043 'Meeting the MPA network principle of viability guidance' (Hill, et al. 2010).
- ⁴ The site does not reach the minimum viability criteria (5km²) for the BSH Intertidal sand muddy sand, and BSH intertidal mud. In some cases, viability in the intertidal has been considered where this is met in linear length alone, however this site is much smaller in linear length, so is considered unviable. However, these are only additional features and are particularly small areas, as discussed in point 1. Intertidal mud is represented in the MPA within which this site sits, so this small area is a portion of a larger feature.
- ⁵ Technically, viability for the FOCI habitat Littoral chalk communities is met as the site has the required patch diameter (0.5km). But, it is recommended that littoral chalk communities are removed from the site as this feature does not occur (was incorrectly identified from modelled data).
- ⁶ The BSH Littoral chalk communities are only listed in two reference areas, and one existing MPA. It is unlikely to occur in this rRA (RA 04), and rMCZ NG 8, so replication is not met in the region. Another example has been recommended for inclusion next to MCZ NG 8.
- ⁷ The site would benefit from boundaries being drawn to follow site features (that is, Agar Creek should form the southern boundary). This would make the site easier to identify and may also address some of the concerns of local users.
- ⁸ The site includes a portion of the North Norfolk subtidal geological feature. However, it is in Natural England's expert opinion that the proportion of this very large feature is so small, that there will be no protection provided by this designation.

- ⁹This site overlaps with the Wash and North Norfolk Coast SAC, the North Norfolk Coast SAC, SPA, SSSI and Ramsar site, Area of Outstanding Natural Beauty (AONB).
- The site achieved strong support from the Net Gain stakeholder group, however since publication of the Final Recommendation in September 2011, the site has not gained the support of local users, who were not involved in the development of the proposal. Local users are critical of the site selection process, and the increase in area from the initial proposal of 500m² to 1km² and have highlighted that the area is more widely used than originally thought by the Net Gain stakeholder group, and would have greater socio-economic impacts than originally thought. To note, the National Trust subsequently put forward an alternative area of saltmarsh at Orfordness in Suffolk, which might meet reference area criteria, illustrating there are alternative sites in the Net Gain region.

Suggested amendments

- The site would benefit from boundaries being drawn to follow site features (that is, Agar Creek should form the southern boundary). This may make the site easier to identify and may also address some of the concerns of local users.
- ⁵Technically, viability for the FOCI habitat Littoral chalk communities is met as the site has the required patch diameter (0.5km). **But, it is recommended that littoral chalk communities are removed from the site as this feature does not occur (from modelled data).**
- **Some of the additional features added into the reference area are particularly small. These areas are highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites.**
- The site achieved strong support from the Net Gain stakeholder group, however since publication of the Final Recommendation in September 2011, the site has not gained the support of local users, who were not involved in the development of the proposal. Local users are critical of the site selection process, and the increase in area from the initial proposal of 500m² to 1km² and have highlighted that the area is more widely used than originally thought by the Net Gain stakeholder group, and would have greater socio-economic impacts than originally thought. To note, **the National Trust subsequently put forward an alternative area of saltmarsh at Orfordness in Suffolk, which might meet reference area criteria, illustrating there are alternative sites in the Net Gain region.**

Summary of site benefits:

- This is the only recommended reference area for Coastal Salt marsh in the project area and therefore contributes to the meeting of the design principles.
- The site sits within a larger area of salt marsh and is therefore afforded a natural 'margin' or buffer to minimise 'edge effects'.
- This coastal salt marsh is a good representation of English Southern North Sea regional sea salt marsh type.
- The boundaries of the site were proposed so as to capture the succession sequence from scarcely vegetated mud at the seaward boundary of the marsh to maritime grassland on the upper marsh.
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that

compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are “critical components to future carbon management discussions and strategies (Fletcher, et al. 2012).

Implications of the site not being designated:

- Reduction in local user concern over the implications of the recommended reference area, the location and process by which the site was proposed
- Although there appears to be two reference areas for salt marsh, the second example is in fact only saline reedbed, not salt marsh. So this is the only replicate reference area for salt marsh.

Site name: rRA NG 05 – Blakeney Seagrass (Net Gain) (Natural England lead).

This recommended reference area is not within an rMCZ, so has been treated as a standalone rMCZ when assessing viability, adequacy and replication.

Table 63 An overview of features proposed for designation within Blakeney seagrasses and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Seagrass beds	FOCI Habitat	✓ * 2	✓	✓ * 3	None	Recover to reference condition			UK BAP
A2.2: Intertidal sand and muddy sand * 1	BSH only 0.0003km ² (30cm)in site	✓	✓	X * 1, 4	None	N/A	Feature too small to be of value.		
A2.3: Intertidal mud * 1	BSH only 0.03km ² in site	✓	✓	X * 1, 4	None	N/A	Feature too small to be of value.		
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				North Norfolk Coast GCR * 12					
Appropriate boundary				X * 5, 6, 7, 12					
Areas of Additional Ecological Importance				✓ * 8, 9, 10					
Overlaps with existing MPAs				✓ * 11					

Additional comments:

- ¹ It is important to note that this, and other reference areas, were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small in the Net Gain region, and in those instances the area is highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites. These smaller features were included in the replication and adequacy assessments by Net Gain regional project. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.
- The reference area was proposed for the main feature proposed FOCI habitat seagrass beds.
- ² NG Final report incorrectly reports five replicates of the FOCI habitat Seagrass beds, replication was duplicated where the site overlaps with the feature in an existing MPA. Therefore there are only three other replicates, and this is the only one recommended in MCZs or recommended reference areas within the Net Gain regional project area.
- ³ Viability for the FOCI habitat Seagrass beds is dependent on a minimum patch size (0.5km) which is not met at this site (approx 0.12 x 0.4km). However, this boundary incorporates the entire patch so it is considered viable.
- ⁴ The site does not reach the minimum viability criteria (5km²) for the additional BSHs Intertidal sand and muddy sand, and Intertidal mud. Sites have been considered viable elsewhere where the criteria are met in linear length alone, but in this case the features extend beyond the site boundary so it is considered unviable for the BSH. In addition, unrealistic amounts have been listed (for example, 1cm², 30cm²) so there is unlikely to be any ecological benefit.
- ⁵ The current boundary is oval, it is recommended that the edges are squared off to make the site easier to identify and manage. The Net Gain stakeholders built in a 10 m buffer around the discrete seagrass beds, which are incorporated in the current boundary.
- ⁶ The most up to date data has not been used to identify this site. West *et al.* 2010 provide more recent evidence (West, Grenham and Kirby 2010). The location of the seagrass beds has been ground-truthed by Natural England staff and this aligns better with the 2010 data.
- ⁷ Redraw boundary to OS master map
- ⁸ Seagrass provides a habitat and nursery areas for juvenile fish, adult fish, shellfish and invertebrates (Biodiversity 1995).
- ⁹ Within the vicinity of the site is a large colony of common and grey seals (National Trust 2011).
- ¹⁰ Blakeney Point is an important area for seabirds including the sandwich and common tern (National Trust 2011).
- ¹¹ The site is within the Wash and North Norfolk Coast SAC, the North Norfolk Coast SPA, SSSI and Ramsar site and AONB.
- The site achieved 'strong support' from the Net Gain stakeholder group, however since publication of the Final Recommendations in September 2011, the site has not gained the full support of local users, who were not involved in the development of the proposal. There are infrequent and low levels of cockle and samphire gathering and bait digging within the bay, though not necessarily in the same area as the seagrass.
- ¹² The site includes a portion of the North Norfolk Subtidal coastal processes, geological feature. However, it is in Natural England's expert opinion that the proportion of this very large feature is so small, that there will be no protection provided by this designation.

Suggested amendments:

- **Some of the additional features added into the reference area are particularly small. These areas are highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites.**

Summary of site benefits:

- This is the only recommended reference area for seagrass beds in the project area and therefore contributes to meeting the design principles.
- The location of the seagrass bed remains relatively stable, compared to other ephemeral seagrass beds on the North Norfolk Coast (West 2010).
- The site has been monitored three times in the last 10 years. The site sits within Blakeney Point, an area managed and warded by the National Trust (West, Grenham and Kirby 2010).
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients (Fletcher, et al. 2012).

Implications of the site not being designated:

- If the site was not included, the MPA network would only meet the minimum replication target for Seagrass beds in the Net Gain regional project area.
- Reduction in local user concern over the implications of the recommended reference area.

Site name: rRA NG 06 Dogs Head Sandbanks (Net Gain) (Natural England lead).

This recommended reference area is not within an rMCZ, so has been treated as a standalone rMCZ when assessing viability, adequacy and replication.

Table 64 An overview of features proposed for designation within Dogs Head Sandbanks and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommend ed conservatio n objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.3 Intertidal mud	BSH	✓ * 2	✓	✓ * 2	None	Recover	This feature is more likely to be BSH Intertidal sand and muddy sand		
A5.2 Subtidal sand * 1, 3, 4	BSH	✓ * 5	✓ * 5	X * 7	None	Recover	Minimum guidelines for replication and adequacy just met.		
A5.3 Subtidal mud * 1, 3, 4	BSH	✓	X	X * 7	None	Recover			
A5.4 Subtidal mixed sediments *1, 3, 4	BSH	✓	✓	X * 7	None	Recover			
A5.6 Subtidal biogenic reefs * 1, 4	BSH	✓ * 6	X*7	X * 7	None	Recover	Replication for this BSH is at it minimum.		

Ross worm <i>Sabellaria spinulosa</i> reefs * 1, 4	FOCI Habitat	✓	X	X * 7	None	Recover		
Subtidal sands and gravels * 1, 3, 4	FOCI Habitat	✓	✓	✓	None	Recover	Minimum guidelines for replication and adequacy just met	
Subtidal chalk (modelled) * 1, 4	FOCI Habitat	✓	✓	✓	None	Recover	Feature unlikely to exist in this site.	
Site considerations								
Connectivity				✓				
Geological/Geomorphological features of interest				Gibraltar point GCR				
Appropriate boundary				✓ * 8				
Areas of Additional Ecological Importance				N/A				
Overlaps with existing MPAs				✓ * 9				

Additional comments:

- ¹ It is important to note that reference areas were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small in the Net Gain region, and in those instances the area is highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites. These smaller features were included in the replication and adequacy assessments by Net Gain regional project. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.
- ² The BSH listed in the table is currently BSH A2.3 Intertidal mud. It is in Natural England’s expert opinion that the majority of the intertidal habitat primarily proposed for this recommended reference area should be BSH A2.2 Intertidal sand and muddy sand which corresponds to the intertidal sandbank features at Inner and Outer Dog’s head. It is our recommendation that BSH A2.3 Intertidal mud is replaced with BSH A2.2 Intertidal sand and Muddy sand.
- ³ As discussed in point 1, the reference area is viable for the main feature proposed BSH Intertidal mud, and the recommended reference area also contains small areas of other features. In this case, the additional featurea may be of value, as the subtidal features may support the dynamic nature of the sandbank complex.
- ⁴ BUT, confidence in the data used to ascertain subtidal features is low. In particular, in Natural England’s expert opinion is that confidence in presence is low for BSH Subtidal biogenic reefs, Subtidal chalk (modelled) and FOCI habitats Ross Worm (*Sabellaria spinulosa*) reefs.

- ⁵ For BSH Subtidal sand, the minimum guidelines have only just been met for replication and adequacy in the regional project area (excluding this site).
- ⁶ Replication for the BSH Subtidal biogenic reefs is at its minimum in the region (excluding this site).
- ⁷ Viability for the BSH Subtidal sand, Subtidal mixed sediments and Subtidal biogenic reefs is dependent on a minimum diameter (5km²) which is not met at this site. For BSH subtidal biogenic reef, the principle of adequacy is met through replication, viability and connectivity, so is not met here either.
- ⁸ The site boundary was drawn to include the mapped extent of the sandbanks based on admiralty charts. Recommend that this is remapped to UKHO 0m contour.
- ⁹ The Wash SAC.
- The Broad scale habitats at Inner and Outer Dogs Head may be impacted upon by the Lincs shore beach replenishment scheme.

Suggested amendments:

- ² The BSH listed in the table is currently (A2.3) Intertidal mud. **It is Natural England's expert opinion that the majority of the intertidal habitat primarily proposed for this recommended reference area should be BSH A2.2 Intertidal sand and muddy sand which corresponds to the intertidal sandbank features at Inner and Outer Dog's head. It is Natural England's advice that BSH A2.3 Intertidal mud is replaced with BSH A2.2 Intertidal and Muddy sand.**
- ⁸ **The site boundary was drawn to include the mapped extent of the sandbanks based on admiralty charts. Advise that this is remapped to UKHO 0m contour.**
- **Some of the additional features added into the reference area are particularly small. These areas are highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites.**

Summary of site benefits:

- This Dog's Head sandbanks provide an important grey seal haul-out area at the Gibraltar Point National Nature Reserve (Lincolnshire Wildlife Trust, Pers. Comm., 2011).
- The site is relatively inaccessible as it comprises a sandbank complex separated from the mainland by a deep channel. For this reason the recommended intertidal feature is more likely to be undisturbed by existing human activities relative to alternative intertidal sites and may therefore be appropriate for the purposes of scientific reference and have higher naturalness/ecological quality.
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Biogenic reefs play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonisation by other organisms. They also provide a significant amount of resistance to wave energy, contributing to coastal protection (Fletcher, et al. 2012).

Implications of the site not being designated:

- This is the only reference area which was specifically designated for BSH Intertidal mud (though likely to be intertidal sand and muddy sand). There are other examples of both A2.2 and A2.3 within other recommended reference areas, however most of these are likely to be only be very small examples. Whereas this feature would be a substantial size and is likely to be the A2.2 feature.

Site name: rRA NG 07 Seahenge Peat and Clay (Net Gain) (Natural England lead).

This recommended reference area is not within an rMCZ, so has been treated as a standalone rMCZ when assessing viability, adequacy and replication.

Table 65 An overview of features proposed for designation within RA7 and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Peat and clay exposures	FOCI Habitat	✓	✓	✓ * 2	None	Recover to Reference Condition			UK BAP Rare feature in the UK
A2.2 Intertidal sand and muddy sand	BSH	✓	✓	X * 3	None	Recover to Reference Condition			
A5.2 Subtidal sand * 1	BSH only 0.003km ² in site	✓	✓	X * 1, 3	None	Recover to Reference Condition	These features are too small to be on benefit, and the site is an intertidal site		
Subtidal sands and gravels * 1	FOCI only 0.15km ² in site	✓	N/A	X * 1, 3	None	Recover to Reference Condition	These features are too small to be on benefit and the site is an intertidal site.		

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	North Norfolk Coast GCR
Appropriate boundary	✓ * 4, 5, 6
Areas of Additional Ecological Importance	N/A
Overlaps with existing MPAs	✓ * 7

Additional comments:

- ¹ It is important to note that this, and other reference areas, were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small in the Net Gain region, and in those instances the area is highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites. These smaller features were included in the replication and adequacy assessments by Net Gain regional project. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.
- ² Viability for the FOCI habitat Peat and Clay exposures is dependent on patch diameter (0.5km). A 0.5km area is possible within this site, so is considered viable for this feature.
- ³ This site does not meet the minimum viability criteria (5km²) for the BSH Intertidal sand and muddy sand, Subtidal sand, and subtidal sand and gravel. In some cases, coastal sites have been considered viable due to their natural geographic boundary, however this site is particularly small (approx 200 m x 1km), and the full extent of the BSH is not clear. Therefore it is considered unviable for all the Broad Scale habitats.
- ⁴ Boundary - remap to OS Master map Mean Low Water (MLW) where possible.
- ⁵ The listed features do extend beyond the boundary but it was drawn by the Net Gain stakeholder group to exclude the archaeological sites to allow future exploration to take place by English Heritage.
- ⁶ The site includes a portion of the North Norfolk Subtidal coastal processes Geological feature. However, it is in Natural England's expert opinion that the proportion of this very large feature is so small, that there will be no protection provided by this designation.
- ⁷ This site overlaps with The Wash and North Norfolk Coast SAC, North Norfolk Coast SPA, SSSI and Ramsar site and AONB. However these do not protect the Peat and Clay exposures. The site sits within the Norfolk Wildlife Trust's Holme Dunes Nature Reserve and lies adjacent to Seahenge archaeological sites (Holme I and II). Holme Dunes NNR is important for breeding terns (Net Gain 2011b).
- The site achieved 'strong support' from the Net Gain stakeholder group. However it is felt that local users of the beach may be unhappy with the restrictions posed if the site is designated as a reference area. Holme beach receives thousands of visitors each year including those that have common rights and those who carry out the long standing tradition of 'crabbing', tickling crabs out from their burrows in the edges of the exposed peat.

Suggested amendments:

- ⁴ Boundary - **remap to OS Master map MLW where possible.**
- **Some of the additional features added into the reference area are particularly small. These areas are highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites.**

Summary of site benefits:

- This is the only recommended reference area for peat and clay exposures in the project area and therefore contributes to the meeting of the design principles.
- The peat and clay exposures feature is not currently protected therefore this designation would afford it protection.
- The peat and clay exposures provide a habitat for many other species to inhabit including piddocks, crabs, seaweeds, invertebrates and hydroids.
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site did not go forward, there would be no implication on adequacy or replication for BSH intertidal sand and muddy sand.
- If this site does not go forward, the MPA network would only just meet the minimum replication for peat and clay features.

Site name: rRA NG 09 Flamborough Head No Take Zone (Net Gain) (Natural England lead).

This recommended reference area is not within an rMCZ, so has been treated as a standalone rMCZ when assessing viability, adequacy and replication.

Table 66 An overview of features proposed for designation within rRA 9 and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A3.1 High energy infralittoral rock	BSH	✓	✓	X * 2	None	Reference condition			
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	X * 2	None	Reference condition		This habitat does not exist in additional MPAs	
Littoral chalk communities	FOCI habitat	✓ * 5	✓	✓ * 3	This site does not meet min viability guidelines of 1km diameter.	Reference condition	Replication is likely to be at its minimum for this feature		
A1.2 Moderate energy intertidal rock * 1	BSH only 0.00005km ² (5cm) of this habitat within the site	✓	✓	X * 4	None	Reference condition	These features are too small to be of benefit		

A2.1 Intertidal coarse sediment * 1	BSH only 0.0004km ² (40cm) of this habitat within the site	✓	✓	X * 4	None	Reference condition	These features are too small to be of benefit		
A2.2 Intertidal sand and muddy sand * 1	BSH only 0.00001km ² (1cm) of this habitat within the site	✓	✓	X * 4	None	Reference condition	These features are too small to be of benefit		
Subtidal sands and gravels *1	FOCI habitat	✓	X	X * 2	None	Reference condition			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 6					
Areas of Additional Ecological Importance				N/A					
Overlaps with existing MPAs				✓ * 6, 7					

Additional comments:

- ¹It is important to note that this, and other reference areas, were proposed for main features and also contains small areas of other features, which were only included as a result of mapping. Some of these additional features are particularly small in the Net Gain region, and in those instances the area is highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites. These smaller features were included in the replication and adequacy assessments by Net Gain regional project. Natural England has produced an additional spreadsheet to demonstrate replication excluding these features for Net Gain which is presented in this advice (**Table 176**), which Natural England has used to do the replication assessment. The features are too small to impact on the adequacy assessment for the region.
- ² This site does not meet the minimum viability criteria (5km²) for the **subtidal** BSH High energy infralittoral rock, Moderate energy infralittoral rock, and Subtidal sand and gravels. Some coastal sites have been considered due to their natural geographic boundary, but in this case, this site is particularly small (approx 0.65 x 1.4km) and it only protects a small portion of the features and is therefore considered unviable for a reference site.

- Although viability is not met for the BSH, it should be noted that this site lies within a European marine site (littoral chalk, intertidal rock, high energy infralittoral and circalittoral rock), and as such could be considered to have a large buffer. Due to the nature of this feature it may be difficult to find an area larger than 1km in diameter for these BSH habitats, so there is still some conservation value here.
- ³ Although this example falls short of the minimum viable patch size for the FOCI Littoral Chalk communities (1km diameter), this is met in length. Due to the linear nature of this intertidal habitat, it is considered viable.
- ⁴ This site does not meet the minimum viability criteria (5km²) for the **intertidal** BSH Moderate energy intertidal rock, Intertidal coarse sediment, Intertidal sand and muddy sand. In some cases, viability in the intertidal has been considered where this is met in linear length alone, or where the feature is entirely within the site, however this site is particularly small, so is considered unviable.
- ⁵ The BSH Littoral chalk communities is only listed in two reference areas, and one existing MPA. It is unlikely to occur in RA 04 and MCZ 8, so replication is at its minimum in the region.
- ⁶ The boundary follows that of the existing Flamborough No Take Zone (NTZ). The No Take bye-law was put in place by NEIFCA at the agreement of the local fishermen and anglers and prevents extraction of seafish within the site (boundary should be in line with NTZ coordinates).
- ⁷ The recommended reference area lies within the Flamborough Head European marine site, which would provide a buffer to the reference area should it be designated.
- Although the main extractive activities have already been removed from the site, further consideration should be given to depositional activities occurring within the vicinity of the proposed reference area. For example, the southern boundary of the site is adjacent to sewage outfall pipe and there is a dredge disposal site used by Bridlington Harbour in close proximity. Although these activities may not be having an adverse effect on the features of the site (in some instances the impacts may be positive), it may be that their influence on the site means that reference condition cannot be achieved.

Suggested amendments:

- **Some of the additional features added into the reference area are particularly small. These areas are highlighted in the representativity column, and Natural England is advising to remove them from the listing for those sites.**

Summary of site benefits:

- The site is already a 'No Take Zone' and the IFCA bye-law in place already prevents extraction of seafish within the site, as a fisheries management measure.
- The site achieved broad support from the NET GAIN stakeholders due to the existing No Take Zone.
- Littoral chalk has also been recommended as a feature of rRA 4, although presence there is unlikely. Therefore this site is important as it is certain to be present here.
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).

Implications of the site not being designated

- There is only one other recommended reference area (04) and three rMCZs where the FOCI habitat Littoral chalk communities is listed.
- Although features have some degree of protection from existing designations, protection would not be to reference condition.

Site name: rMCZ BS 30 Kentish Knock East (Balanced Seas) (Natural England lead)

Table 67 An overview of features proposed for designation within Kentish Knock rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	<i>Recover</i>	This is a significant contributor to the adequacy target, in the BS region.		Regionally important in relation to biogeographic representivity for the Southern North Sea – Region 2
A5.2 Subtidal sand	BSH	✓	✓	✓	None	<i>Recover</i>			
A5.4 Subtidal mixed sediment	BSH	✓	✓	✓	None	Recover			Regionally important in relation to biogeographic representivity for the Southern North Sea – Region 2.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 3					
Appropriate boundary				✓ * 2					
Areas of additional ecological importance				✓ * 1, 3, 4					
Overlaps with existing MPAs				✓ * 5					

Additional comments:

- ¹ This rMCZ falls within the foraging radii for seabird colonies (RSPB data) and there are also nursery and spawning grounds for a number of fish species (Ellis, et al. 2012). The rMCZ overlaps with an SPA and is a regular summer/winter bird foraging area (Balanced Seas 2011a)
- ² The boundary for the rMCZ is in line with the ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. As this site has been proposed for BSH, the boundary has been drawn around a discrete area of broad-scale habitat and roughly follows the extent of the subtidal coarse sediment. The boundary should be extended to capture subtidal coarse sediment that is located at the North of the site as it was recommended by the SAP, JNCC and Natural England in their feedback to the Balanced Seas project. However, further evidence would be useful.
- ⁵ The site overlaps with the outer Thames SPA.

Suggested amendments:

- ² The boundary for the rMCZ is in line with the ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. As this site has been proposed for BSH, the boundary has been drawn around a discrete area of broad-scale habitat and roughly follows the extent of the subtidal coarse sediment. **The boundary should be extended to capture subtidal coarse sediment that is located at the North of the site as it was recommended by the SAP, JNCC and Natural England in their feedback to the Balanced Seas project. However, further evidence would be useful.**

Summary of site benefits:

- ³ This site overlaps the English Channel Glacial outburst flood geological feature but this has not been recommended by the RSG as a feature for designation within this rMCZ. This is a very large scale Glacial Process (erosion) feature, formed by a catastrophic flood that occurred some 400 000 years before present, when a land barrier at the Straits of Dover that had trapped meltwater in the North Sea became breached. The event left megaflood erosion features on the English Channel seabed including deeply-eroded channels. In addition to this primary feature this rMCZ hosts secondary features such as tunnel valleys and the Paleo Thames paleovalley.
- ⁴ SeaSearch data has identified possible Sabellaria sp. and mussel beds here but further research is needed to determine this.
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of site not being designated:

- The adequacy target for subtidal coarse sediment would not be met. .

Site name: rMCZ BS 02 Stour and Orwell (and rRA 24 Harwich Haven, rRA 22 North Mistley) (Balanced Seas) (Natural England lead)

Table 68 An overview of features proposed for designation within Stour and Orwell and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 2	None	Maintain	Joint highest contributing site for adequacy (with The Swale).	Joint highest contributing site for adequacy (with The Swale).	
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓ * 2	None	Maintain			
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓ * 2	None	Maintain	This BSH is currently only reaching the minimum adequacy target.	Significantly contributes to adequacy target.	
Blue mussel <i>Mytilus edulis</i> beds	FOCI Habitat	✓	✓	✓	None	Maintain			OSPAR habitat and BAP habitat - UK obligation, decline, functional habitat

Estuarine rocky habitats	FOCI Habitat	✓	✓	✓ * 3	None	Maintain		One of the best examples in the region especially for Harwich Stone Band (cement stone)	BAP habitat - UK obligation, decline, functional habitat, key species
Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	✓ * 15	✓	✓ * 3	None	Recover	One of only two records in the region.	One of only two sites where both species of <i>Sabellaria</i> have occurred together	BAP habitat
Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	✓	✓	✓ * 3	None	Recover			OSPAR habitat
Peat and clay exposures	FOCI Habitat	✓	✓	✓ * 3	None	Maintain			BAP habitat - key species, functional habitat
Ross worm reefs <i>Sabellaria spinulosa</i>	FOCI Habitat	✓	✓	✓ * 3	None	Recover		One of only two sites where both species of <i>Sabellaria</i> have occurred together.	BAP and OSPAR habitat
Sheltered muddy gravel	FOCI Habitat	✓	✓	✓ * 3	None	Recover			BAP habitat
Subtidal sand and gravels	FOCI Habitat	✓	✓	✓ * 3	None	Maintain			BAP habitat
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 5					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 6					
Overlaps with existing MPAs				✓ * 7					

Table 69 North Mistley (Balanced Seas) (Natural England lead) within rMCZ 02. An overview of features proposed for designation within recommended reference area North Mistley and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A2.3 Intertidal mud	BSH	X * ⁸	Recover to reference condition
Blue mussel bed <i>Mytilus edulis</i>	FOCI Habitat	✓ * ⁹	Recover to reference condition
Starlet sea anemone <i>Nematostella vectensis</i>	FOCI Species	✓ * ¹⁰	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ¹¹		

Table 70 rRA 24 Harwich Haven (Balanced Seas) (Natural England lead) within rMCZ 02. An overview of features proposed for designation within recommended reference area Harwich Haven and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A1.3 Low energy intertidal rock	BSH	X * ¹²	Recover to reference condition
A2.1 Intertidal coarse sediment	BSH	X * ¹²	Recover to reference condition
Ross worm reefs <i>Sabellaria spinulosa</i>	FOCI Habitat	✓	Recover to reference condition
Estuarine rocky habitats	FOCI Habitat	✓	Recover to reference condition
Honeycomb worm reefs <i>Sabellaria alveolata</i>	FOCI Habitat	✓ * ¹⁴	Recover to reference condition
Subtidal sands and gravels	FOCI Habitat	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ¹³		

Additional comments (rMCZ):

- ¹ For the BSH subtidal coarse sediments, the adequacy target is at its minimum, and this site contains the 4th largest area of it.
- ² Although this rMCZ does not meet the minimum viable size for BSHs in diameter (5km minimum), this is met in linear length. Due to the natural geographic boundary of the estuary it is therefore considered viable (using Natural England expert judgement).
- ³ Viability for the FOCI species within the rMCZ is dependent on a minimum patch diameter (0.5km) which is possible within this site, so all the rMCZ FOCI are considered viable.

- ⁴ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included so is considered viable.
- ⁵ Harwich Stone Band is within the site, though was not recommended by the RSG as a feature to be designated (ie there is no conservation objective for it).
- ⁶ Spawning and nursery grounds for flat fish, tentacled lagoon worm, starlet sea anemone (Natural England 2003), important site for juvenile bass population (Balanced Seas 2011a).
- ⁷ The site overlaps with the Stour Estuary SSSI, Orwell Estuary SSSI, Stour and Orwell SPA, Hamford Water SSSI, SPA and Ramsar and Stour and Orwell Estuaries Ramsar

Additional comments (recommended reference areas):

- **rRA 22:** ⁸ This site does not meet the minimum viability criteria (5km²) for the BSH Intertidal mud. Some intertidal sites have been considered viable where this is met in linear length, but this site does not, and the feature extends beyond the boundary, so is considered unviable. The site could be extended along the coastline east and west to increase the amount of habitat protected, though stakeholder response is unclear.
- **rRA 22:** ⁹ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) / is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole patch is included, so is considered viable. There are further patches of habitat to the east, which could also be included as a separate reference area as they distinct from each other. Although the full extent of the mussel beds is unclear and therefore further survey work would need to be undertaken to ascertain the correct extent?
- **rRA 22:** ¹¹ The research undertaken by the Eastern IFCA since final submission of the regional project recommendations, has determined that there are no intertidal mussel beds present, but they are subtidal (Eastern IFCA 2012). The boundary is still appropriate as other intertidal features are also included.
- **rRA 22:** ¹⁰ All records at time of recommendation of starlet sea anemone are captured within the recommended reference area. However since recommendations were made, it is now known there is another site adjacent to MCZ BS 02 with a larger, monitored population of Starlet Sea Anemone at Trimley managed realignment site (HHA pers. Comm. email from JB re: Local group minutes). The data for Trimley realignment is more recent than the current records held by Balanced Seas, so this information was not known at the time of regional stakeholder group (RSG) discussions. The boundary could be amended to incorporate the realignment scheme within the MCZ, and added as an alternative to rRA 24 (which would not impact on blue mussel replication as this is across the rMCZ). Although this managed realignment scheme appears to be above Mean High Water on charts, it does support marine species so is tidal.
- **rRA 24:** It should be noted that this recommended reference area has ongoing activity which will impact its ability to meet recovery status. There is ongoing maintenance dredging in the south-east corner, and wildfowling which may have an impact which is why Natural England have recommended considering the alternative reference area site. Moving the boundary to avoid the subtidal channel in the South-east corner would remove any direct impacts from dredging operations on the reference area, indirect impacts would still need to be considered.

- **rRA 24:** ¹² This site does not meet the minimum viability criteria (5km²) for BSH Low energy intertidal rock, or Intertidal coarse sediment, and not even in linear length. The reference area could be extended along the coastline east and west to increase the amount of habitat protected, and is therefore considered to be unviable.
- **rRA 24:** ¹³ The boundary is not appropriate as viability has not been met.
- **rRA 24 and MCZ:** ¹⁴ This site is only one of two examples of the FOCI habitat *Sabellaria alveolata* reefs in the region, both within MCZs so the replication criteria is met.

Suggested amendments:

- **rRA 22:** ⁸ This site does not meet the minimum viability criteria (5km²) for the BSH Intertidal mud has. Some intertidal sites have been considered viable where this is met in linear length, but this site does not, and the feature extends beyond the boundary, so is considered unviable. **The site could be extended along the coastline east and west to increase the amount of habitat protected, though stakeholder response is unclear.**
- **rRA 22:** ¹⁰ All records at time of recommendation of starlet sea anemone are captured within the recommended reference area. However since recommendations were made, it is now known there is another site adjacent to MCZ BS 02 with a larger, monitored population of Starlet Sea Anemone at Trimley managed realignment site (HHA pers. Comm. email from JB re: Local group minutes). The data for Trimley realignment is more recent than the current records held by Balanced Seas, so this information was not known at the time of RSG discussions. **The boundary could be amended to incorporate the realignment scheme within the MCZ, and added as an alternative to rRA 24 (which would not impact on blue mussel replication as this is across the rMCZ). However this managed realignment scheme appears to be above Mean High Water on charts, but does support marine species so is tidal, so is not entirely accurate.**
- **rRA 24:** ¹² This site does not meet the minimum viability criteria (5km²) for BSH Low energy intertidal rock, or Intertidal coarse sediment, and not even in linear length. **The reference area could be extended along the coastline east and west to increase the amount of habitat protected, and is therefore considered to be unviable.**

Summary of site benefits (MCZ unless stated otherwise):

- This rMCZ provides a significant contribution towards the adequacy target for BSH subtidal coarse sediment and BSH low energy intertidal rock within the regional project area
- The FOCI habitat *Sabellaria alveolata* reefs is listed in both the rMCZ and recommended reference area, and is only one of two listed in the regional project area.
- The rMCZ and recommended reference area provide for one of the most distinctive examples of FOCI habitat Estuarine rocky habitats in the biogeographic region (Brodie, et al. 2007).
- The European eel is noted as the most important taxa in the estuaries (Worsfold 2002). The EA survey data also shows these estuaries support populations of smelt. They are also fish nursery areas for herring, bass, flounder and sole. The variety of habitats around this area provides important feeding grounds and refuge for juvenile sea bass. It is a primary area for Sole nursery and spawning grounds (Balanced Seas 2010b).

- The estuaries have relatively high species richness and diversity (Dyer 1997), and are a Key Inshore Biodiversity Area according to the South-East England Biodiversity Forum 2010 (Seeley, Lear, et al. 2010).
- The site's support little terns and Mediterranean gull as foraging grounds (Balanced Seas 2010b).
- The sites are important Plant Area for algae (Brodie, et al. 2007).
- The rMCZ overlaps the Suffolk Coast and Heaths AONB, and Stour Estuary SSSI, Orwell Estuary SSSI, Stour and Orwell SPA, Hamford Water SSSI so will provide strengthened protection to intertidal and subtidal estuarine features.
- There are wild and unharvested native oysters in the estuaries (Balanced Seas 2011a).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Biogenic reefs play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonisation by other organisms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection. **Mussel reefs** are also an important food source for birds and have a strong stabilising effect on the sediment, thereby countering erosive wave action. ***Sabellaria alveolata*** reefs have been shown to have an important trophic role as a primary consumer of phytoplankton through filtering large volumes of water, contributing to improved water quality (Fletcher, et al. 2012)
- Subtidally, ***Sabellaria spinulosa*** stabilises mobile sediment which allows diverse epifaunal and infaunal species not found in other habitats to establish communities in a multitude of niches. Communities associated with *M. modiolus*, *S. spinulosa* and *Serpula vermicularis* are generally known to be extremely rich. The close association between *S. spinulosa* and the pink shrimp *Pandalus motagui* has led to intensive fishing of these reefs (Fletcher, et al. 2012).

Implications of the site not being designated (MCZ unless stated otherwise):

- Significant decrease to adequacy target for BSH subtidal coarse sediment and low energy intertidal rock. For BSH coarse sediment, removal of this site would result in adequacy being at the minimum. For low energy intertidal rock, it is still above minimum but will reduce by around 30% as this site offers a large contribution for this region.
- If the rMCZ does not go forward, there would only be one replication for *Sabellaria alveolata* reefs in the Balanced Seas project region.
- The most distinctive example of estuarine rocky habitat would not be represented in the Balanced Seas region.

Site name: rMCZ BS 03 Blackwater, Crouch, Roach and Colne (and rRA 23 Abbots Hall Farm, rRA 02, and rRA 01 Colne Point (Balanced Seas) (Natural England lead)

Table 71 An overview of features proposed for designation within Blackwater, Crouch, Roach and Colne recommended MCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓ * 1	✓	✓ * 2	None	Maintain	This BSH is currently only reaching the minimum replication target		
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓ * 2	None	Maintain			
Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	✓	✓	✓ * 3, 4	None	Maintain		This is the most important area for both wild and cultivated native oyster in the project region. Essex University monitor the Colne Estuary.	OSPAR

Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓ * 3, 4	None	Maintain		This is the most important area for both wild and cultivated native oyster in the project region. This feature is not protected in existing MPAs	BAP and OSPAR species
Lagoon sea slug <i>Tenellia adpersa</i>	FOCI Species	✓ * 4	✓	✓ * 5	Replication is not met for this FOCI species	Maintain	This is the only record of <i>Tenellia</i> in the region.	This feature is not protected in existing MPAs.	BAP species and listed on schedule 5 of the Wildlife and Countryside Act
European eel <i>Anguilla anguilla</i>	FOCI Mobile Species	✓	✓	N/A	None	Maintain		Not protected by existing designations at RP and biogeographical level.	BAP and OSPAR species
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				Clacton GCR geological feature * 6					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 7, 8, 9, 10					
Overlaps with existing MPAs				✓ * 12					

Table 72 rRA 01 Colne Point (Balanced Seas) (Natural England lead) within rMCZ 03. An overview of features proposed for designation within recommended reference area Colne Point and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A2.2 Intertidal sand and muddy sand	BSH	X * ¹¹	Recover to reference condition
A2.3 Intertidal mud	BSH	X * ¹¹	Recover to reference condition
A2.4 Intertidal mixed sediments	BSH	X * ¹²	Recover to reference condition
A5.2 Subtidal sand	BSH	X * ¹³	Recover to reference condition
A5.3 Subtidal mud	BSH	X * ¹³	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	X * ¹³	Recover to reference condition
Blue mussel <i>Mytilus edulis</i> beds	FOCI Habitat	X * ¹⁴	Recover to reference condition
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓ * ¹⁵	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Table 73 rRA 02 South Mersea (Balanced Seas) (Natural England lead) within rMCZ 03. An overview of features proposed for designation within recommended reference area South Mersea and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	X * ¹⁶	Recover to reference condition
Native oyster <i>Ostrea edulis</i>	FOCI Species	X * ¹⁶	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Table 74 rRA 23 Abbotts Hall Farm (Balanced Seas) (Natural England lead) within rMCZ 03. An overview of features proposed for designation within recommended reference area Abbotts Hall Farm and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Lagoon sea slug <i>Tenellia adspersa</i>	FOCI Species	✓ * ¹⁷	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ¹ This is one of only two rMCZs protecting high energy intertidal rock.
- ² This site does not meet the minimum viability criteria (5km²) for the BSH High energy intertidal rock, and Intertidal mixed sediments. However this is met in linear length, so due to the nature of the intertidal, they are considered viable.
- ³ Viability for the FOCI habitat (and FOCI species) *Ostrea edulis* beds (Native Oysters) are dependent on patch diameter (0.5km). A 0.5km area of suitable habitat is present within this rMCZ therefore ticked for viability. Anecdotal local knowledge suggests a much larger population, although the scientific data did not exist at the time of proposal. This data is now being collected by Essex Wildlife Trust and the Blackwater Oystermen (Essex Wildlife Trust 2012)
- ⁴ The site contains all known records of lagoon sea slug sea slug and it is naturally bounded within the estuaries (Balanced Seas 2011a), so the replication target is met.
- ⁵ The ENG states that the FOCI species *Tenellia adspersa* (lagoon sea slug sea slug) is found in saline lagoons, and viability is dependent on the whole lagoon being included. This area is not a saline lagoon, however all known records of lagoon sea slug sea slug are bounded within the estuaries, so it is considered viable.
- ⁶ The site includes Clacton Cliffs and Foreshore geological feature which is part of the Clacton GCR.
- ⁶ The sites are important spawning and nursery area for a number of fish including thornback ray, whiting, sole, sprat, grey mullet and the Blackwater Herring, a unique species, as well as Brown shrimp which spawn here (Balanced Seas 2011a).
- ⁷ Important foraging area for birds such as the black-headed gull (Balanced Seas 2011a).
- ⁸ The area is an area of high benthic biotope richness (Seeley, Lear, et al. 2010), and a Key Inshore Biodiversity Area according to the South-East England Biodiversity Forum 2010 (South East England Biodiversity Forum (SEEBF) 2010).
- ⁹ Haul-out and pupping sites for grey seal (Balanced Seas 2011a).
- ¹⁰ Existing designated sites which overlap are: Essex Estuaries SAC, Colne Estuary SSSI, Blackwater Estuary SSSI, Crouch and Roach Estuaries, Dengie SSSI, Mid Essex Coast SPA, Outer Thames SPA.

Additional comments for recommended reference areas:

- **rRA 01:**¹¹ This site does not meet the minimum viability criteria (5km²) for the intertidal BSH Intertidal sand and muddy sand and Intertidal mud, in length or diameter. As this feature also extends beyond the boundary, the current boundary is considered to be unviable and the site could be increased in a linear direction to incorporate more of this habitat.
- **rRA 01:**¹² This site does not meet the minimum viability criteria (5km²) for the BSH Intertidal mixed sediments. In some cases, viability in the intertidal has been considered where this is met in linear length alone, however this site is particularly small even in linear length (approx 950m), so is considered unviable. Though it should be noted that the entire patch of this habitat has been captured.
- **rRA 01:**¹³ The BSH Subtidal sand, Subtidal Mud and Subtidal mixed sediments do not reach the minimum viable criteria (5km), in length or diameter. As these features also extend beyond the boundary, the current boundary is considered to be unviable and the site could be extended seawards to capture more of these habitats.
- **rRA 01:**¹⁴ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is not included, so is not considered viable. Viability would be achieved if the boundary was extended to the east to capture more of this habitat.
- **rRA 01:**¹⁵ The entire feature has been captured within the site. It is naturally bounded by the coastline.
- **rRA 02:**¹⁶ Viability for the FOCI habitat (and FOCI species) *Ostrea edulis* beds (Native Oysters) is dependent on patch diameter (0.5km) which is not met at this site. Furthermore, there is no scientific data on feature presence and extent. Anecdotal local knowledge suggests there is high confidence the feature is present. Surveys will need to be undertaken.
- **rRA 23:**¹⁷ The ENG states that the FOCI species Lagoon sea slug (*Tenellia adspersa*) is found in saline lagoons, and viability is dependent on the whole lagoon being included. In this location it is a managed realignment scheme (not a saline lagoon), and it is Natural England's expert opinion that as the entire managed realignment area has been captured within the site, it is considered viable as it does support a very rich *Tenella adspersa* population, and all records are captured within the rRA .

Suggested amendments:

- **rRA 01:**¹¹ This site does not meet the minimum viability criteria (5km²) for the intertidal BSH Intertidal sand and muddy sand and Intertidal mud, in length or diameter. As this feature also extends beyond the boundary, **the current boundary is considered to be unviable and the site could be increased in a linear direction to incorporate more of this habitat.**
- **rRA 01:**¹³ The BSH Subtidal sand, Subtidal Mud and Subtidal mixed sediments do not reach the minimum viable criteria (5km), in length or diameter. As these features also extend beyond the boundary, the current boundary is considered to be unviable and the site should be extended seawards to capture more of these habitats.
- **rRA 01:**¹⁴ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is not included, so is not considered viable. **Viability would be achieved if the boundary was extended to the east to capture more of this habitat.**

Summary of site benefits:

- This is the most important area for both wild and cultivated native oyster in the region (Balanced Seas 2011a).
- This is the only example of the lagoon sea slug *Tenellia adspersa* in the region.
- This is one of only two rMCZs protecting BSH High energy intertidal rock, with only one existing MPA protecting this habitat in the region.
- This is a highly biodiverse area containing a number of species spending important life stages in the estuaries (Balanced Seas 2011a).
- The geological feature contains important fossils and rare species (Balanced Seas 2011a).
- The intertidal sediment supports several beneficial ecosystem processes including erosion control and food web dynamics.
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries (Fletcher, et al. 2012).
- Subtidal biogenic reefs (such as play a major role in the global carbon cycle and act as a major store of carbon. These 'living' reefs play an important role in fixing and processing nutrients from the seawater into the benthic environment. Biogenic reefs provide habitat for shellfish and fish which are exploited by the fishing industry and a range of microhabitats for colonisation by other organisms such as molluscs, echinoderms, and fish. They also have an important role to play in protecting coasts through the reduction of incoming wave energy and improving water quality through water filtration processes (Fletcher, et al. 2012).

Implications of the site not being designated:

- The species FOCI *Tenellia adspersa* will not be protected in this region.
- The most important area for both wild and cultivated native oyster would not be protected in the region.
- The rMCZ and recommended reference areas overlap (fully or partially) with existing MPAs and a managed realignment site so the features may receive some incidental protection.
- The replication target for BSH High energy intertidal rock would not be met in the regional project area, though note confidence in presence, is low for this feature in this site.

Site name: rMCZ BS 05 Thames Estuary (and rRA 3 Holehaven Creek) (Balanced Seas) (Natural England lead)

Table 75 An overview of features proposed for designation within the Thames Estuary and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replicat- ion	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.2 Intertidal sand and muddy sand	BSH	✓	✓	✓	None	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓	None	Maintain			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain	This BSH is currently only reaching the minimum adequacy target.	The combination of habitats towards the estuary mouth are considered important for ecosystem services particularly fisheries.	
A5.2 Subtidal sand	BSH	✓	✓ * 1	✓	None	Maintain		The combination of habitats towards the estuary mouth is considered important for ecosystem services particularly fisheries.	
A5.3 Subtidal mud	BSH	✓	✓	✓	None	Maintain		The combination of habitats towards the estuary mouth is considered important for ecosystem services particularly fisheries.	

Sheltered muddy gravels	FOCI Habitat	✓	✓	✓	None	Maintain			BAP habitat
Tentacled lagoon worm <i>Alkmaria romijni</i>	FOCI Species	✓	✓	✓	None	Maintain		This is a well-known established population.	Listed on Schedule 5 of the Wildlife and Countryside Act
European eel <i>Anguilla anguilla</i>	FOCI Mobile Species	✓	✓	N/A	None	Maintain		The Thames has the second highest density of eel of all estuaries surveyed by the EA and the feature is not protected in existing MPAs.	BAP and OSPAR species
Smelt <i>Osmerus eperlanus</i>	FOCI Mobile Species	X * 2	X	N/A	Minimum replication target not met * 2	Maintain		The MCZ protects the whole extent of the seasonal seaward migration of smelt.	BAP species
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 3					
Areas of Additional Ecological Importance				✓ * 4, 5, 6					
Overlaps with existing MPAs				✓ * 7					

Table 76 rRA 3 Holehaven Creek (Balanced Seas) (Natural England lead) within rMCZ 05. An overview of features proposed for designation within recommended reference area Holehaven Creek and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A5.3 Subtidal mud	BSH	✓ * ⁶	Recover to reference condition
A2.2 Intertidal sand and muddy sand	BSH	✓ * ⁶	Recover to reference condition
A2.3 Intertidal mud	BSH	✓ * ⁶	Recover to reference conditions
Sheltered muddy gravels	FOCI Habitat	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ¹ The BSH subtidal sand is close to the lower adequacy target (approx 19%).
- ² This is the only rMCZ which lists the mobile FOCI species Smelt (*Osmerus eperlanus*) in the region. This is because it is the only site where there is high confidence in the presence of the species, though they may potentially be in other estuaries in the region. Presence of smelt, is listed as an additional benefit in the site assessments for rMCZ 2,11.2, 11.4, 23, and 26 for this region.
- ³ The site is naturally bounded and uses minimal lines.
- ⁴ The site is thought to have a permanent population of FOCI species *Hippocampus hippocampus* (short-snouted seahorse) (Zoological Society of London *pers comm.* (2011)).
- ⁵ The site is considered to be important for fish nursery and spawning grounds for Dover Sole, Lamprey, Bass, Sprat and Herring (Balanced Seas 2011a).
- ⁶ The site was identified by the South East England Biodiversity Forum as a Key Inshore Biodiversity Area in the Balanced Seas region (South East England Biodiversity Forum (SEEBF) 2010).
- ⁷ The site overlaps with the Thames Estuary and Marshes SPA, Benfleet and South end Marshes Ramsar, South Thames Estuary Marshes SSSI, Holehaven Creek SSSI.
- rRA 3:** ⁶ Although this recommended reference area does not meet the minimum viable size criteria for BSHs (5km² minimum), this is met in linear length. Due to the natural geographic boundary of the estuary it is therefore considered viable (using Natural England expert judgement). However, the site could be extended seaward to include more BSH although it is constrained by infrastructure and activity.
- rRA 3:** The site overlaps with a number of dredging operations and flood defence works which are considered incompatible with achieving reference condition. A new boundary could not be suggested for this site.

Summary of site's benefits:

- The site supports the second highest density of eels in all EA surveyed estuaries (Environment Agency 2010b).
- The MCZ protects the whole extent of the seasonal seaward migration of smelt and eel.
- The combinations of habitats, particularly towards the estuary mouth, are considered important for ecosystem services particularly fisheries (Balanced Seas 2011a).
- The intertidal and subtidal sediment features can provide several beneficial ecosystem processes including primary production, food web dynamics, formation of species habitat and biogeochemical cycling (Fletcher, et al. 2012)
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos. Estuarine soft sediments support a diverse group of microscopic and macroscopic organisms (Fletcher, et al. 2012).
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- Important fish nursery and spawning grounds may not be afforded adequate protection and therefore may lead to knock-on effects to related fisheries. The site is particularly important for eels (Environment Agency 2010b).
- The best example of Tentacled Lagoon Worm in the Balanced Seas region will not be protected (Balanced Seas 2011a).

Site name: rMCZ BS 06 Medway Estuary (Balanced Seas) (Natural England lead)

Table 77 An overview of features proposed for designation within the Medway Estuary and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see **see** Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain	Shares the greatest contribution to the adequacy target – along with the Stour and Orwell Estuaries		
A2.2 Intertidal sand and muddy sand	BSH	✓	✓	✓ * 1	None	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓ * 1	None	Maintain			
1A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			

A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain			
A5.3 Subtidal mud	BSH	✓	✓	✓	None	Maintain			
Estuarine rocky habitats	FOCI Habitat	✓	✓	✓	None	Maintain	This site is one example of four (minimum three and one site is already under MPA designation)		BAP habitat - UK obligation, decline, key species
Peat clay exposures	FOCI Habitat	✓	✓	✓	None	Maintain			BAP habitat - key species, functional habitat
Sheltered muddy gravels	FOCI Habitat	✓	✓	✓	None	Maintain			BAP habitat
Tentacled lagoon worm <i>Alkmaria romijni</i>	FOCI Species	✓	✓	✓	None	Maintain			Listed on Schedule 5 Wildlife and Countryside Act
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 2					
Areas of Additional Ecological Importance				✓ * 3					
Overlaps with existing MPAs				✓ * 4					

Additional comments:

- * ¹ The site does not meet the minimum viability criteria (5km²) for the BSH Intertidal low energy intertidal rock, Intertidal sand and muddy sand, Intertidal mixed sediments, however its met in linear length and due to the linear nature of the intertidal and estuarine habitats, they are considered viable.

Summary of site benefits:

- ² The boundary of this site follows the boundary of the Estuary, which is the most sensible approach.
- ³ The site offers one of the top three areas for European eel (*Anguilla anguilla*) recovery in the region (Defra 2010d). However, currently there is only a sparse occurrence of this FOCI and therefore was not put as designation (pers comms).
- ⁴ The site overlaps with the Medway Estuary and Marshes SSSI, South Thames Estuary and Marshes SSSI, Medway Estuary and Marshes SPA and Ramsar site and the Thames Estuary and Marshes SPA and Ramsar site.
- This is a complex and dynamic ecosystem where the mix of fresh and sea waters with tidal movement create changing levels of salinity and nutrient richness that provide a fertile environment for large populations of animals, particularly invertebrates, fish and birds (Medway Swale Estuary Partnership (MSEP) 2011).
- This site is one of the Key Inshore Biodiversity Areas in the Balanced Seas Region recommended by the South-East England Biodiversity Forum (South East England Biodiversity Forum (SEEBF) 2010).
- This site is one of only three locations where the tentacled lagoon Worm (*Alkmaria romijni*) is thought to occur in the region, so it only meeting the minimum replication target (South East England Biodiversity Forum (SEEBF) 2010).
- Nursery grounds for Bass, Herring, Plaice, Sole and Cod (Kent and Essex IFCA 2010).
- The site supports migratory species, such as Salmon and Sea Trout (Colclough, Marine fish nursery function in the Medway Estuary. 2010b).
- Important Seal foraging site (Balanced Seas RSG 2010).
- Important colony of Sandwich Terns forage on the both the intertidal and subtidal areas not currently protected in the SPA.
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos. Estuarine soft sediments support a diverse group of microscopic and macroscopic organisms (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated then the region will not meet the adequacy target for the BSH A1.3.Low energy intertidal rock.
- If this site does not go forward then the replication target for the tentacled lagoon worm will not met the replication target.

Site name: rMCZ BS 07 Thanet Coast (and rRA 4 Westgate Promontory, and rRA 5 Turner Contemporary) (Balanced Seas) (Natural England lead)

Table 78 An overview of features proposed for designation within Thanet and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see **see** Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A3.2 Moderate energy infralittoral rock	BSH	✓	✓ * 2	✓ * 1	None	Maintain	This feature is close to the lower threshold of the adequacy target and only seven sites have been proposed for this feature		
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓ * 1	None	Maintain		This is the best regional example of the progression of chalk, from intertidal chalk cliffs to subtidal chalk reefs	
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain	This BSH is currently only reaching the minimum adequacy target.		

A5.2 Subtidal sand	BSH	✓	✓	✓ * 1	None	Maintain			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓ * 1	None	Maintain			
Blue mussel <i>Mytilus edulis</i> beds	FOCI habitat	✓	✓	✓ * 2	None	Maintain			BAP and OSPAR
Peat and clay exposures	FOCI Habitat	✓	✓	✓ * 3	None	Maintain			BAP
Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	✓	✓	✓	None	Recover		Unusual habitat composition because the feature forms a biogenic reef complex with the blue mussel beds	BAP and OSPAR
Subtidal chalk	FOCI Habitat	✓	✓	✓	None	Maintain		This is the best regional example of the progression of chalk, from intertidal chalk cliffs to subtidal chalk reefs	BAP habitat
Subtidal sand and gravels	FOCI Habitat	✓	✓	✓	None	Maintain			BAP habitat
Stalked jellyfish <i>Haliclystus auricula</i>	FOCI Species	✓ * 4	✓	✓ * 5	None	Maintain	One of two rMCZs for this feature	This feature has a limited distribution in the region.	BAP species
Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	FOCI Species	✓ * 4	✓	✓ * 5	None	Maintain	Only rMCZ for this feature	This feature has a limited distribution in the region.	BAP species

Site considerations	
Connectivity	✓ * 6
Geological/Geomorphological features of interest	None
Appropriate boundary	✓ * 7
Areas of Additional Ecological Importance	✓ * 8
Overlaps with existing MPAs	✓ * 8

Table 79 rRA 4 Westgate Promontory (Balanced Seas) (Natural England lead) within rMCZ 7. An overview of features proposed for designation within recommended reference area Westgate Promontory and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Stalked jellyfish <i>Halicylistus auricula</i>	FOCI Species	✓	Recover to reference condition
Subtidal sand and gravels	FOCI Habitat	✓	Recover to reference condition
Littoral chalk communities	FOCI Habitat	X * 9	Recover to reference condition
A1.2 Moderate energy intertidal rock	BSH	X * 10	Recover to reference condition
A2.3 Intertidal mud	BSH	X * 10	Recover to reference condition
A3.2 Moderate energy infralittoral rock	BSH	X * 15	Recover to reference condition
A5.2 Subtidal sand	BSH	X * 15	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * 9, 10 & 15		

Table 80 rRA 5 Turner Contemporary (Balanced Seas) (Natural England lead) within rMCZ 7. An overview of features proposed for designation within recommended reference area Turner Contemporary and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	FOCI Species	✓	Recover to reference condition
Subtidal chalk	FOCI Habitat	X * ¹¹	Recover to reference condition
Subtidal sand and gravels	FOCI Habitat	✓ * ¹²	Recover to reference condition
Littoral chalk communities	FOCI Habitat	X * ¹³	Recover to reference condition
A1.2 Moderate energy intertidal rock	BSH	X * ¹³	Recover to reference condition
A2.2 Intertidal sand and muddy sand	BSH	X * ¹³	Recover to reference condition
A2.3 Intertidal mud	BSH	X * ¹⁴	Recover to reference condition
A3.2 Moderate energy infralittoral rock	BSH	X * ¹⁵	Recover to reference condition
A4.2 Moderate energy circalittoral rock	BSH	X * ¹⁵	Recover to reference condition
A5.2 Subtidal sand	BSH	X * ¹⁵	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	X * ¹⁵	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ^{11, 12, 13}		

Additional comments:

- ¹ Although this rMCZ does not quite meet the minimum viable size for BSHs in diameter (5km minimum), this is more than met in linear length, so is therefore considered viable for BSH (using Natural England expert judgement).
- ² Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) / is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included so is considered viable.
- ³ Viability for the FOCI habitat Peat and clay exposures is dependent on patch diameter (0.5km). A 0.5km area of suitable habitat is present within this rMCZ therefore ticked for viability. However, the feature extends beyond the boundary so viability would be improved if the boundary was extended. There is a record just outside the rMCZ boundary which should be included within the proposed site.
- ⁴ The FOCI species *Haliclystus auricula* (stalked jellyfish) and *Lucernariopsis cruxmelitensis* (stalked jellyfish) features are below the replication target; however the maximum achievable number of replicates for *Haliclystus auricula* has been proposed for designation as it has a limited distribution in the region, so this feature is considered to meet the replication criteria.

- ⁵ Viability for FOCI species *Haliclystus auricula* (stalked jellyfish) and *Lucernariopsis cruxmelitensis* (stalked jellyfish) is dependent on a minimum patch diameter (0.5km and 1km). An area of suitable habitat is present within this rMCZ therefore ticked for viability. New data since recommendations were made indicates that a larger population exists elsewhere within the rMCZ (behind Walpole Bay tidal pool) (Pers. Comms).
- ⁶ The connectivity target is met within the region, more specifically it has been met for all EUNIS Level 2 except for A3 which is naturally patchy in distribution across the region.
- ⁷ The rMCZ is bounded at its northward extent by an existing designation (Margate and Longsands SAC), the coast, and an area where extension of the boundary would only protect greater area of A4.2 (which is sufficiently proposed for designation within the region). It also has the minimum number of lines.
- ⁸ Overlaps with Margate and Longsands SAC, Outer Thames SPA, Thanet Coast SAC and Thanet Coast and Sandwic^h Bay SPA and Ramsar site.

Additional comments for recommended reference areas:

- Walpole Bay tidal pool would potentially make a more suitable area for a reference site for the stalked jellyfish FOCI (*Haliclystus auricula* and *Lucernariopsis cruxmelitensis*), although there still will not be any viable BSH.
- **rRA 4:** ⁹ Viability for the FOCI habitat Littoral chalk communities is dependent on patch diameter (1km). There is not a 1km patch within this recommended reference area and, there is an additional area of the feature which could be included in the recommended reference area by extending its boundary, but the feature is not continuous in its coverage.
- **rRA 4:** ¹⁰ This site does not meet the minimum viability criteria (5km²) for the BSH Moderate energy intertidal rock and Intertidal mud, in length or diameter. As this feature also extends beyond the boundary, the current boundary is considered to be unviable and the site should be increased if possible. recommended reference area could be extended (to the east and west) to encompass more of this feature
- **rRA 5:** ¹¹ Viability for the FOCI habitat Littoral chalk communities is dependent on patch diameter (1km). There is not a 1km patch within this recommended reference area and, there is an additional area of the feature which could be included in the recommended reference area by extending its boundary, recommended reference area could be extended seaward to encompass more of this feature.
- **rRA 5:** ¹² Viability for the FOCI habitat subtidal Sands and gravels is dependent on patch diameter (0.5km) which is met at this site, but the recommended reference area could be extended to encompass more of this feature.
- **rRA 5:** ¹³ The site does not meet the viability target (5km²) for the Intertidal BSH Moderate energy intertidal rock and Intertidal sand and muddy sand , in length or diameter. As this feature also extends beyond the boundary, the current boundary is considered to be unviable and the site should be increased if possible. The reference area could be extended to the east to encompass more of this feature, but there are coastline constraints.
- **rRA 5:** ¹⁴ The intertidal BSH Intertidal mud does not reach the minimum viable criteria (5km), in length or diameter. However it should be noted the boundary of recommended reference area is constrained by man-made features and coast. The feature is also proposed for protection in rRA 4.
- **rRA 4:** ¹⁵ The site does not meet the minimum viability criteria (5km²) for the BSH Moderate energy infralittoral rock, Moderate energy circalittoral rock, Subtidal sand, and Subtidal mixed sediments, in length or diameter. However reference area 5 was proposed for other key features and these were additional considerations, and were not the basis for deciding to put forward the reference area.

- New data now indicates that larger populations of *Haliclystus auricula* and *Lucernariopsis cruxmelitensis* exist elsewhere in the rMCZ (behind Walpole Bay tidal pool). In our opinion, this area would be a suitable and beneficial additional reference area for the region (Pers. Comms).

Suggested amendments:

- ³ Viability for the FOCI habitat Peat and clay exposures is dependent on patch diameter (0.5km). A 0.5km area of suitable habitat is present within this rMCZ therefore ticked for viability. **However, the feature extends beyond the boundary so viability would be improved if the boundary was extended. There is a record just outside the rMCZ boundary which should be included within the proposed site.**
- ⁵ Viability for FOCI species *Haliclystus auricula* (stalked jellyfish) and *Lucernariopsis cruxmelitensis* (stalked jellyfish) is dependent on a minimum patch diameter (0.5km and 1km). An area of suitable habitat is present within this rMCZ therefore ticked for viability. New data since recommendations were made indicates that a larger population exists elsewhere within the rMCZ (behind Walpole Bay tidal pool) (Pers. Comms).
- Walpole Bay tidal pool would potentially make a more suitable area for a reference site for the stalked jellyfish FOCI (*Haliclystus auricula* and *Lucernariopsis cruxmelitensis*), although there still will not be any viable BSH.
- **rRA 4:** ⁹ Viability for the FOCI habitat Littoral chalk communities is dependent on patch diameter (1km). **There is not a 1km patch within this recommended reference area and, there is an additional area of the feature which could be included in the recommended reference area by extending its boundary, but the feature is not continuous in its coverage.**
- **rRA 4:** ¹⁰ This site does not meet the minimum viability criteria (5km²) for the BSH Moderate energy intertidal rock and Intertidal mud, in length or diameter. As this feature also extends beyond the boundary, **the current boundary is considered to be unviable and the site should be increased if possible. The recommended reference area could be extended (to the east and west) to encompass more of this feature**
- **rRA 5:** ¹¹ Viability for the FOCI habitat Littoral chalk communities is dependent on patch diameter (1km). There is not a 1km patch within this recommended reference area and, there is an additional area of the feature which could be included in the recommended reference area by extending its boundary, **The recommended reference area could be extended seaward to encompass more of this feature.**
- **rRA 5:** ¹² Viability for the FOCI habitat subtidal Sands and gravels is dependent on patch diameter (0.5km) which is met at this site, **but the recommended reference area could be extended to encompass more of this feature.**
- **rRA 5:** ¹³ The site does not meet the viability target (5km²) for the Intertidal BSH Moderate energy intertidal rock and Intertidal sand and muddy sand, in length or diameter. **As this feature also extends beyond the boundary, the current boundary is considered to be unviable and the site should be increased if possible. The reference area could be extended to the east to encompass more of this feature, but there are coastline constraints.**

Summary of site benefits:

- There is scientific value in this site because it is well studied with good data (Tittley 2002, English Nature 2001, Natural England 2007).
- This is the best example in the region of the progression of chalk cliffs to intertidal chalk reefs to subtidal chalk reefs (Tittley, Spurrier, et al. 1998).
- Site has unusual habitat composition because *Sabellaria spinulosa* forms a biogenic reef complex with the blue mussel beds (South East England Biodiversity Forum (SEEBF) 2010).

- Site is the only rMCZ for the stalked jellyfish *Lucernariopsis cruxmelitensis*.
- Site is one of two rMCZs for the stalked jellyfish *Haliclystus auricul*.
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).
- Subtidal biogenic reefs play a major role in the global carbon cycle and act as a major store of carbon. These 'living' reefs play an important role in fixing and processing nutrients from the seawater into the benthic environment. Biogenic reefs provide habitat for shellfish and fish which are exploited by the fishing industry, and a range of microhabitats for colonisation by other organisms such as molluscs, echinoderms, and fish. They also have an important role to play in protecting coasts through the reduction of incoming wave energy and improving water quality through water filtration processes. *Sabellaria spinulosa* stabilises mobile sediment which allows diverse epifaunal and infaunal species not found in other habitats to establish communities in a multitude of niches. Communities associated with *M. modiolus*, *S. spinulosa* and *Serpula vermicularis* are generally known to be extremely rich (Fletcher, et al. 2012).
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos (Fletcher, et al. 2012).
- Subtidal sediment (includes BSH EUNIS CODES A5.1–A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Subtidal chalk is often bored by bivalve molluscs, such as the common piddock (*Pholas dactylus*) and empty bore holes provide habitat for a range of crevice dwelling animals. In some examples piddock holes have created particularly species rich habitats used by a range of invertebrates, shellfish (crabs), and worm species (Fletcher, et al. 2012).

Implications of the site not being designated:

- This feature is close to the lower threshold of the adequacy target for A3.2 and only seven sites have been proposed for this feature
- Site has unusual habitat composition because *Sabellaria spinulosa* forms a biogenic reef complex with the blue mussel beds and therefore an example of this habitat complex would not be protected if this site is not designated

- This is the best example in the region of the progression of chalk cliffs to intertidal chalk reefs to subtidal chalk reefs and therefore an example of this habitat complex would not be protected if this site is not designated
- *Lucernariopsis cruxmelitensis* would not be protected by an MCZ if this site is not designated
- If this site is not designated there is a risk that *Haliclystus auricular* will not be protected by an MCZ as this is one of only two rMCZs for this feature.

Site name: rMCZ BS 09 Offshore Foreland (Balanced Seas) (Natural England lead)

Table 81 An overview of features proposed for designation within Offshore Foreland and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A3.1 High energy infralittoral rock	BSH	✓	✓	✓	None	Recover	This site has the greatest contribution to the adequacy target		
A4.1 High energy circalittoral rock	BSH	✓	✓	✓	None	Recover			
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Recover			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain	This site significantly contributes to the adequacy target	This feature is at the lower end of the adequacy target.	
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain			

Site considerations	
Connectivity	✓ * ¹
Geological/Geomorphological features of interest	English Channel outburst flood features * ²
Appropriate boundary	✓ * ³
Areas of Additional Ecological Importance	✓ * ^{4, 5}
Overlaps with existing MPAs	X * ⁶

Additional comments:

- ¹ The connectivity target has been met for all EUNIS Level 2 except for A3 which is naturally patchy in distribution.
- ² Part of the geological feature English Channel outburst flood features occurs within the site forming the deep channel running through the eastern part of the site. This geomorphological feature is evidence of a megaflood which occurred some 200,000 years ago when huge glacial lakes in the North Sea burst through the Dover Straits Isthmus which contained it, thus separating England from mainland Europe (Gupta, et al. 2007, Balanced Seas 2011a).
- ³ The boundary of the rMCZ roughly follows the ENG guidelines as far as it uses a minimum number of straight lines and is as compact a shape as possible.
- ⁴ The site provides foraging grounds for great cormorant, Sandwich tern and black-legged kittiwake (Pers. Comms. Kent Ornithology Society), and nursery grounds for commercially important fish such as Dover Sole and Plaice (Balanced Seas 2010b). It is also thought to be a spawning ground for certain flatfish species (Balanced Seas 2011a).
- ⁵ The north of the site exhibits the top 10% of benthic species taxonomic distinctness in the region (Defra n.d.).
- ⁶ The site abuts two possible French Natura sites, the Bancs des Flandres SAC and SPA in the north-east, and the Cap Gris Nez SPA in the south-west.

Summary of site benefits:

- The north of the site exhibits the top 10% of benthic species taxonomic distinctness in the region (Defra n.d., Balanced Seas 2010b). Area of additional pelagic ecological interest, great cormorant and black kittiwake foraging ranged (Balanced Seas 2011a).
- Habitat might lend it to be an important site for flatfish spawning.
- Commercial fish species such as Dover Sole, Plaice, Cod and Mackerel also occur in the area (Balanced Seas Conservation Aims May 2011).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site does not go forward for designation then the adequacy guidelines will not be met for BSH A5.1.

Site name: rMCZ BS 10 The Swale Estuary (Balanced Seas) (Natural England lead)

Table 82 An overview of features proposed for designation within the Swale Estuary and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale.

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 2	None	Maintain			
A3.3 Low energy infralittoral rock	BSH	✓ * 1	✓	✓ * 2	None	Maintain	This BSH is currently only reaching the minimum replication target		
A5.2 Subtidal sand	BSH	✓	✓	✓ * 2	None	Maintain			
A5.3 Subtidal mud	BSH	✓	✓	✓ * 2	None	Maintain			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓ * 2	None	Maintain			

Blue mussel <i>Mytilus edulis</i>	FOCI Habitat	✓	✓	✓ * 3	None	Recover		This feature is considered to have potential for recovery if the overall conditions are allowed to improve.	BAP and OSPAR habitat
Peat clay exposure	FOCI Habitat	✓	✓	✓	None	Maintain		Best example of exposed London Clay at several locations in the site.	BAP habitat
Ross worm <i>Sabellaria spinulosa</i> reef	FOCI Habitat	✓	✓	✓	None	Recover			BAP and OSPAR habitat
Subtidal sands and gravels	FOCI Habitat	✓	✓	✓	None	Maintain			BAP habitat
Sheltered muddy gravels	FOCI Habitat	✓	✓	✓	None	Maintain			BAP habitat
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Maintain			BAP and OSPAR species
European eel <i>Anguilla anguilla</i>	FOCI Mobile Species	✓	✓	N/A	None	Maintain		Not protected by existing designations at RP and biogeographical level.	BAP and OSPAR species

Site considerations	
Connectivity	✓ * ⁴
Geological/Geomorphological features of interest	None
Appropriate boundary	✓ * ⁵
Areas of Additional Ecological Importance	✓ * ⁶
Overlaps with existing MPAs	✓ * ⁷

Additional comments:

- ¹ This is one of only two sites containing the BSH Low energy infralittoral rock in the region.
- ² This site does not meet the minimum viability criteria (5km²) for the BSH although, this is met in linear length. Due to the natural geographic boundary of the estuary it is therefore considered viable (using Natural England expert judgement).
- ³ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included, so is considered viable.
- ⁴ The connectivity target has been met for all EUNIS Level 2 except for A3 which is naturally patchy in distribution.
- ⁵ The rMCZ is naturally bounded in the estuary and has a minimum number of lines.
- ⁶ SPA birds, overlaps with The Swale SPA, important spawning and nursery ground for several fish species including cod, herring, mackerel, plaice and sole, peacock worm (*Sabella pavorina*) and important sea squirt beds (refer to BS SAD)
- ⁷ The Swale SSSI/SPA and Ramsar site.

Summary of site benefits:

- The Swale is a highly biodiverse area and has been identified as a Key Inshore Biodiversity Areas by the South-East England Biodiversity Forum (South East England Biodiversity Forum (SEEBF) 2010).
- Best example of exposed London Clay at several locations in the site (Balanced Seas 2011a).
- This is one of only two sites containing this low energy infralittoral rock in the region.
- Site presents a good opportunity for shellfish recovery if protected.
- This site contains rare algal communities on shingle, as well as peacock worm (*Sabella pavorina*) and important sea squirt beds (copied from SAD)
- The EA found the sheltered muddy gravels to be particularly biodiverse (Balanced Seas 2011a) and this habitat is important for the beneficial ecosystem processes of species diversification and formation of species habitat.
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).

- Subtidal biogenic reefs such as blue mussel beds play a major role in the global carbon cycle and act as a major store of carbon. These 'living' reefs play an important role in fixing and processing nutrients from the seawater into the benthic environment. Biogenic reefs provide habitat for shellfish and fish which are exploited by the fishing industry, and a range of microhabitats for colonisation by other organisms such as molluscs, echinoderms, and fish. They also have an important role to play in protecting coasts through the reduction of incoming wave energy and improving water quality through water filtration processes (Fletcher, et al. 2012).
- *Sabellaria spinulosa* stabilises mobile sediment which allows diverse epifaunal and infaunal species not found in other habitats to establish communities in a multitude of niches. Communities associated with *M. modiolus*, *S. spinulosa* and *Serpula vermicularis* are generally known to be extremely rich. The close association between *S. spinulosa* and the pink shrimp *Pandalus motagui* has led to intensive fishing of these reefs (Fletcher, et al. 2012).

Implications of the site not being designated:

- The BSH A3.3 Low energy infralittoral rock is close to the lower threshold of the adequacy target and only two sites have been proposed for this feature, so if this site did not go forward neither adequacy or replication would be met.

A5.1.3 Region 3 – Eastern Channel

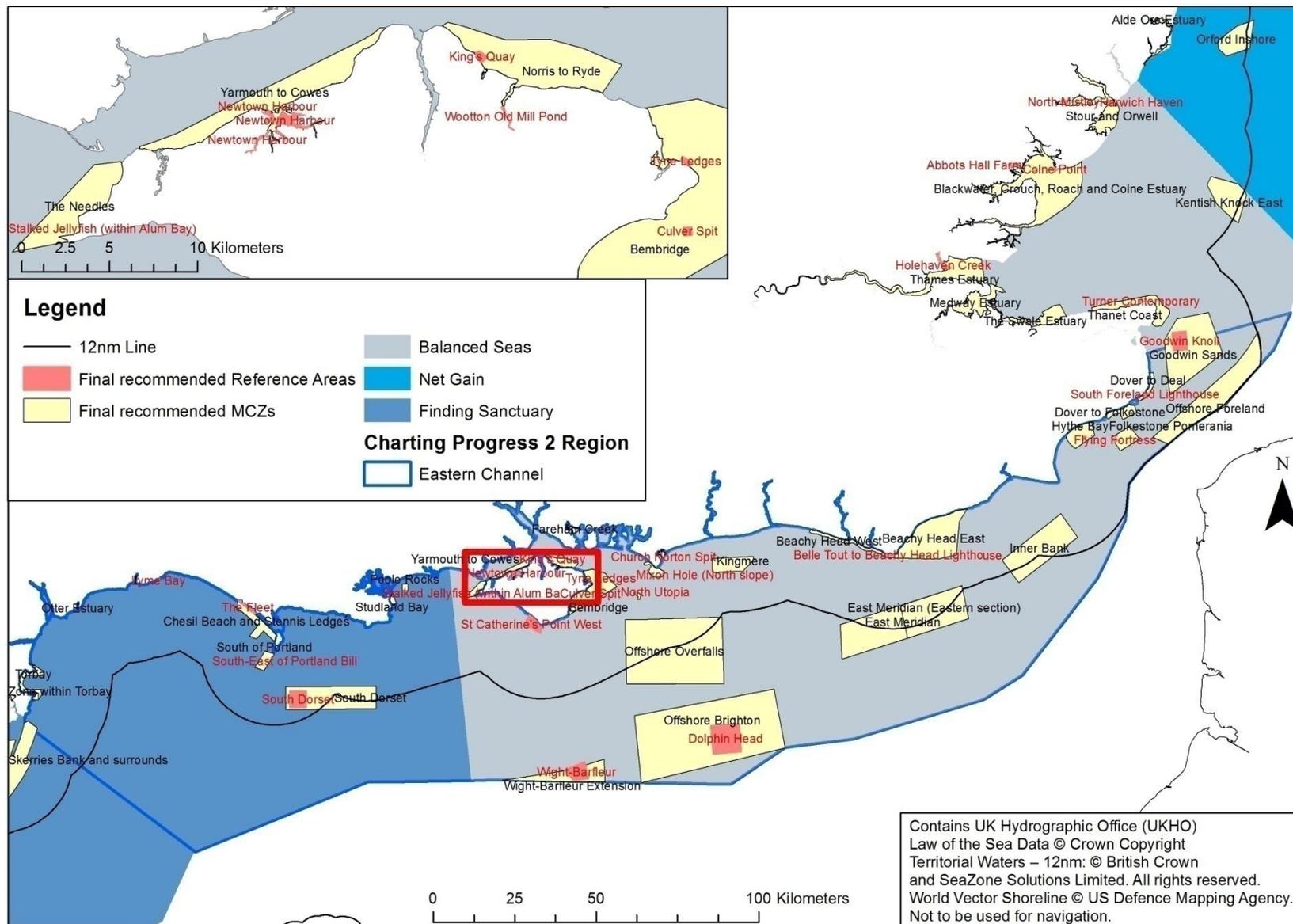


Figure 17 The Eastern Channel regional seas

Site name: BS 29 East Meridian (Balanced Seas) (JNCC)

Table 83 An overview of features proposed for designation within the East Meridian rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Ross worm <i>Sabellaria spinulosa</i> reefs* ¹	FOCI	✓	✓	✓	None	Recover			BAP and OSPAR habitat
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Recover			BAP habitat
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * ²					
Appropriate boundary				✓ * ³					
Areas of Additional Ecological Importance				✓ * ⁴					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ There is uncertainty as to whether current data are for *Sabellaria spinulosa* reef or just an occurrence of *Sabellaria spinulosa* species. Further evidence will need to be gathered to confirm whether the reef feature is present (see [Section 5.1](#)). Final advice is pending further discussion with Defra regarding potential overlaps between Natura designation processes and MCZs.
- ³ The boundary for the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines, however the records for the FOCI *Sabellaria spinulosa* reef are located on the site boundary. If the evidence for this feature is confirmed it may be appropriate to extend the boundary to provide a sufficient margin of protection.

Suggested amendments:

- More evidence is needed to confirm the presence of *Sabellaria spinulosa* reefs. If the feature is confirmed it may be appropriate for the boundary to be modified (see comment above).

Summary of site benefits:

- This site contributes to the representativity, replication and adequacy guidelines for two broad-scale habitats and two FOCI, both of which are BAP habitats and one is on the OSPAR list of threatened and/or declining species and habitats. It also contributes to achieving connectivity for EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ² This site overlaps the English Channel outburst flood geological feature, but it not recommended as a feature for designation. The regional MCZ project report states that this feature was only identified after the final stakeholder meeting and so was not considered for designation. They do state that this would be a good site to protect this feature given that it covers the majority of the site (Balanced Seas 2011a). This is a very large scale Glacial Process (erosion) feature, formed by a catastrophic flood that occurred some 400,000 years before present, when a land barrier at the Straits of Dover that had trapped meltwater in the North Sea became breached. The event left megaflood erosion features on the English Channel seabed including deeply-eroded channels.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This site overlaps with areas of high and medium benthic species biodiversity and also overlaps with an area of medium benthic biotope biodiversity (Langmead, et al. 2010).
 - The regional MCZ project recommendations suggest that the presence of an ancient river system increases the complexity of the bathymetry and topographic seafloor features. The area has high benthic species and biotope richness, and being located on the southern edge of a thermal front creates high pelagic diversity within the north area of the site (Balanced Seas 2011a).
 - There are records for sightings of basking sharks in the inshore part of the rMCZ (Marine Conservation Society and the Shark Trust) and the rMCZ falls within the foraging radii for certain seabird species (RSPB). There are nursery and spawning grounds for a number of fish species within the local area including nursery grounds for the highly mobile species FOCI *Raja undulata*, which is also a BAP species (Ellis, et al. 2012).

- An analysis of the numbers and distribution of seabirds found that there are medium elevated numbers of lesser black-backed gull and herring gull during their breeding season; and of common guillemot, razorbill and greater black-backed gull during winter (the latter two particularly in the eastern part). Close by (but not within the boundaries of the area) are medium elevated numbers of great skua during winter and of common gull around the year (Kober, et al. 2010).

Implications of the site not being designated:

- If this site is not put forward for designation, there is still scope to achieve the ENG guidelines for the features listed for designation at this site, within the remaining rMCZs and existing MPAs in this region. If this site is not taken forward to designation the connectivity of EUNIS Level 2 sublittoral sediment will be reduced within the offshore area of the regional MCZ project area.

Site name: BS 29.2 East Meridian (Eastern side) (Balanced Seas) (JNCC)

Table 84 An overview of features proposed for designation within East Meridian (Eastern Side) and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Recover			BAP habitat
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 1					
Appropriate boundary				✓ * 2					
Areas of Additional Ecological Importance				✓ * 3					
Overlaps with existing MPAs				None					

Additional comments:

- ² The boundary for the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. This rMCZ has a more compact boundary than its larger alternative East Meridian rMCZ, which is in line with the ENG.

Suggested amendments:

- None.

Summary of site benefits:

- This site contributes to the representativity, replication and adequacy guidelines for two broad-scale habitats and one FOCI, which is a BAP habitat. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ¹ This site overlaps the English Channel outburst flood geological feature which is listed as a feature of interest in the ENG, but has not been recommended as feature for designation. This is a very large scale Glacial Process (erosion) feature, formed by a catastrophic flood that occurred some 400,000 years before present, when a land barrier at the Straits of Dover that had trapped meltwater in the North Sea became breached. The event left megaflood erosion features on the English Channel seabed including deeply-eroded channels.
- ³ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This site overlaps with areas of high and medium benthic species biodiversity and an area of of medium benthic biotope biodiversity (Langmead, et al. 2010).
 - The regional MCZ project recommendations suggest that the presence of an ancient river system increases the complexity of the bathymetry and topographic seafloor features. The area is high in benthic species richness, with pelagic data showing the north of the site is higher in biodiversity (Balanced Seas 2011a) .
 - This rMCZ overlaps with an area of moderate benthic biotope richness in the north-west corner of the site (Langmead, et al. 2010). This rMCZ is located on the southern edge of a thermal front creates high pelagic diversity within the north area of the site. There are records for sightings of basking sharks in the inshore part of the rMCZ (Marine Conservation Society and the Shark Trust data) and the rMCZ falls within the foraging radii for seabird species (RSPB data). There are nursery grounds and spawning grounds for a number of fish species within the local area including nursery grounds for the highly mobile species FOCI *Raja undulata*, which is also a BAP species. (Ellis, et al. 2012).
 - An analysis of the numbers and distribution of seabirds found that there are medium elevated numbers of lesser black-backed gull and herring gull during their breeding season; and of common guillemot, razorbill and greater black-backed gull during winter. Close by (but not within the boundaries of the area) are medium elevated numbers of great skua and of common gull during winter (Kober, et al. 2010).

Implications of the site not being designated:

- If this site is not put forward for designation, there is still scope to achieve the ENG guidelines for the features listed for designation at this site, within the remaining rMCZs (and existing MPAs) in this region. If this site is not taken forward to designation the connectivity in EUNIS Level 2 sublittoral sediment will be reduced within the offshore area of the regional MCZ project area.

Site name: BS 31 Inner Bank rMCZ (Balanced Seas) (JNCC)

Table 85 An overview of features proposed for designation within the Inner Bank rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Native oyster <i>Ostrea edulis</i> beds * 1	FOCI								
Native oyster <i>Ostrea edulis</i> * 1	FOCI								
A3.2 Moderate energy infralittoral rock * 2	BSH	✓	✓	✓	None	Recover	Of all the rMCZs and existing MPAs, this site contributes the largest area of moderate energy infralittoral rock within the regional MCZ project area.		

A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Recover		This feature is not currently protected within existing MPAs.	
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓ * 3	None	Recover			
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 4					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ Balanced Seas have put forward *Ostrea edulis* as both a species and habitat of conservation importance in their final recommendations for Inner Bank and recover objectives have been recommended. However, further investigation into the source of the information supporting the recommendation of both features (a single record from 1999) revealed that the location has subsequently been regularly resurveyed and there are no further records of *O. edulis* (*pers. comm.* Matthew Curtis Cefas, 05-03-12). This is further supported by stakeholder accounts which indicate *O. edulis* is not found here, other than occasional specimens; see Inner Bank’s Selection Assessment Document (Balanced Seas 2011a) . We therefore advise that these features are not listed for designation in Inner Bank.
- ² There is uncertainty surrounding the presence of moderate energy infralittoral rock (see [Section 5.1](#)) and so it may not be suitable as a feature for designation at this point. If the presence and extent of the feature was confirmed by further data gathering, there is potential for this rMCZ to contribute the largest area of this feature out of all of the rMCZs and existing MPAs in the regional MCZ project area. However as the data is yet to be fully analysed we have continued to consider it in the assessment of this feature in relation to the ENG guidelines.
- ³ The site is viable for the features that are proposed for designation, however the patch of subtidal coarse sediment habitat is very small.

Suggested amendments:

- We do not agree with the inclusion of *Ostrea edulis* or *Ostrea edulis* beds as features for designation in this rMCZ and suggest that these are not included if this rMCZ is designated (see comments above).
- Due to uncertainty in the presence of moderate energy infralittoral rock, the inclusion of low energy circalittoral rock as a feature for designation in this site may need reconsidering (see comment above).

Summary of site benefits:

- This rMCZ hosts a wide range of broad-scale habitats from rocky habitats to soft sediment habitats.
- This site contributes to the representativity, replication and adequacy guidelines for four broad-scale habitats, one of which is currently not protected by existing MPAs within the regional MCZ project area. Of all the rMCZs and existing MPAs, this site contributes the largest area of moderate energy infralittoral rock within this regional MCZ project area and is essential for achieving the adequacy target for this feature. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats (where the distribution of this habitat allows) and complies with the viability guidelines.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This site overlaps with areas of high and medium benthic species biodiversity (Langmead, et al. 2010).
 - The regional MCZ project recommendations suggest that the presence of an ancient river system increases the complexity of the bathymetric and topographic seafloor features. The area is high in benthic species richness, with pelagic data showing the north of the site is higher in biodiversity (Balanced Seas 2011a).
 - This rMCZ is located in an area containing a seasonal thermal front. There are records for sightings of basking sharks in the inshore part of the rMCZ (Marine Conservation Society and the Shark Trust data) and the rMCZ falls within the foraging radii for seabird species (RSPB data). There are nursery and spawning grounds for a number of fish species within the local area including nursery grounds for the highly mobile species FOCI *Raja undulata*, which is also a BAP species (Ellis, et al. 2012).
 - An analysis of the numbers and distribution of seabirds found that the very eastern tip is part of a larger important area for Mediterranean gull. There are low to medium densities of herring gull during breeding (in the east of the area) and common guillemot during winter; medium densities of lesser black-backed gull during breeding (south of the area), greater black-backed gull during winter, and razorbill during winter; and medium to high densities of common gull during winter (Kober, et al. 2010).

Implications of the site not being designated:

- If further work verifies the presence and extent of the moderate energy infralittoral rock the Inner Bank rMCZ makes a significant contribution towards achieving the adequacy guidelines for this broad-scale habitat within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.

Site name: BS 14 Offshore Brighton rMCZ and BS RA 10 Dolphin Head recommended reference area (Balanced Seas) (JNCC)

Table 86 An overview of features proposed for designation within Offshore Brighton rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Ross worm <i>Sabellaria spinulosa</i> reefs * 1	FOCI	✓	✓	✓	None	Recover			BAP and OSPAR habitat
Subtidal sands and gravels	FOCI	✓	✓	✓	None	<i>Maintain</i>			BAP habitat
A4.1 High energy circalittoral rock	BSH	✓	✓	✓	None	Recover			
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓ * 2	None	Recover		This feature is not currently protected within existing MPAs.	Only a small proportion of this BSH is currently protected in existing MPAs within the Eastern Channel Regional Sea

A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 3					
Appropriate boundary				✓					
Areas of additional ecological importance				✓ * 4					
Overlaps with existing MPAs				None					

Table 87 An overview of features within the Dolphin Head recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
<i>Sabellaria spinulosa</i> reef	FOCI	✓	Recover to reference condition
Subtidal sands and gravels	FOCI	✓	Recover to reference condition
A4.1 High energy circalittoral rock	BSH	✓	Recover to reference condition
A4.2 Moderate energy circalittoral rock	BSH	✓	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * 5		

Additional comments

- ¹ There is uncertainty as to whether current data is for *Sabellaria spinulosa* reef or just an occurrence of *Sabellaria spinulosa* species. Further evidence will need to be gathered to confirm whether the reef feature is present (see [Section 5.1](#)). Final advice is pending further discussion with Defra regarding the designation of Annex 1 features in MCZs.
- ² There is only a small patch of the moderate energy circalittoral rock within this rMCZ.
- ⁵ The recommended reference area boundary uses a minimum amount of straight lines and it is just above the minimum size requirements. However it is not clear that a buffer was used to reduce the risk of damage from anthropogenic activities.

Suggested amendments:

- More evidence is needed to confirm the presence of *Sabellaria spinulosa* reefs (see comment above).

Summary of site benefits:

- The site contributes towards the achievement of ENG guidelines of representation, replication and adequacy for three broad-scale habitats, one of which is currently not protected by existing MPAs within the regional MCZ project area and two habitat FOCI, both of which are BAP habitats and one is on the OSPAR list of threatened and/or declining species and habitats. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats (where the distribution of this habitat allows) and complies with the viability guidelines.
- The site contains one of the three replicates of the broad-scale habitat high energy circalittoral rock which has limited distribution within the regional MCZ project area, in particular the western part. The site also contains the broad-scale habitat moderate energy circalittoral rock which currently only has a small proportion protected within existing MPAs within the regional MCZ project area, and the Eastern Channel regional sea.
- The delineation of the site boundary was heavily influenced by current fishing activities but nevertheless seems to comply with the recommendations of the ENG.
- Based on the evidence for the ecological impacts outlined in Fletcher *et al.* (2012), it can be inferred that the improvement of the ecological integrity of subtidal mixed sediments could provide benefits to ecosystem services of fisheries, environmental resilience, and regulation of pollution, and research and education.
- ³ The site also overlaps with Glacial Process features including the English Channel Outburst Flood Feature (listed as a feature of interest in the ENG) and rock outcrop features, although these have not been recommended as primary features for designation at this site. The English Channel Outburst Flood Feature is a very large scale Glacial Process (erosion) feature, formed by a catastrophic flood that occurred some 400 000 years before present, when a land barrier at the Straits of Dover that had trapped meltwater in the North Sea became breached. The event left megaflood erosion features on the English Channel seabed including deeply-eroded channels.

⁴ Information on Areas of Additional Ecological Importance was used in decisions on the location and final boundary. This rMCZ and the recommended reference area overlap with an area of medium benthic species biodiversity and medium benthic biotope biodiversity (Langmead, et al. 2010).

Implications of the site not being designated:

- If this site is not designated then the minimum replication target for high energy circalittoral rock will just be achieved. This broad-scale habitat has limited distribution in the regional MCZ project area and it will be difficult to find an alternative example elsewhere.
- If the recommended reference area is not designated, then a viable reference area for two FOCI and three broad-scale habitats will be lost from the network. This is especially important given that there are so few viable reference areas that have been recommended.

Site name: BS 17 Offshore Overfalls rMCZ (Balanced Seas) (JNCC)

Table 88 An overview of features proposed for designation within the Offshore Overfalls rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Ross worm <i>Sabellaria spinulosa</i> reefs * 1	FOCI	✓	✓	✓	None	Recover			BAP and OSPAR habitat
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Maintain			BAP habitat
Undulate ray <i>Raja undulata</i>	FOCI	X * 2	X * 3	✓	Minimum replication target not met	Maintain	The replication target for this feature has not been achieved.	Only site proposed for this feature within the region. This feature is not protected within existing MPAs.	BAP species. This feature is not protected in existing MPAs within the Eastern Channel Region.
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓ * 4	None	Recover			
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			

A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover	Out of all of the rMCZs this site contributes the second largest area of this feature towards meeting the ENG target for adequacy.	Only a small proportion of this habitat is protected within existing MPAS	Only a small proportion of this habitat is protected in existing MPAS within the Eastern Channel Region
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				Glacial Process features - English Channel Outburst Flood Feature * 5					
Appropriate boundary				✓ * 6					
Areas of additional ecological importance				✓ * 7					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ There is uncertainty as to whether current data are for *Sabellaria spinulosa* reef or just an occurrence of *Sabellaria spinulosa* species. Further evidence will need to be gathered to confirm whether the reef feature is present (see [Section 5.1](#)). Final advice is pending further discussion with Defra regarding overlaps between Natura designation processes and MCZs.
- ^{2,3} Although there are other records for the highly mobile species *Raja undulata*, this is the only rMCZ where it is proposed as a feature for designation. For this reason the guideline for adequacy for this feature has also not been achieved.
- ⁴ The site is viable for the features that are proposed for designation, however the patch of subtidal coarse sediment habitat is very small.
- ⁶ The boundary for the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. It has been drawn around a discrete area of extensive broad-scale habitat and provides a sufficient margin in between the FOCI and the boundary edge.

Suggested amendments:

- More evidence is needed to confirm the presence of *Sabellaria spinulosa* reefs (see comment above).

Summary of site benefits:

- The site contributes towards the achievement of the ENG principles of representation, replication and adequacy for three broad-scale habitats. Out of all of the rMCZs, this site contributes the second largest area of subtidal mixed sediment towards achieving the ENG target for adequacy.
- The site also contributes towards achieving the principles of representation, replication and adequacy for three habitat and species FOCI, all of which are BAP habitats or species and one which is on the OSPAR list of threatened and/or declining species and habitats. The site is needed to achieve representativity for the FOCI *Raja undulata*. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability and boundary guidelines.
- The north-east corner of this rMCZ, called the Overfalls, has been highlighted by the stakeholder group as of high scientific value. It has been well researched for a range of species by the Overfalls Group⁷⁴. The area is dominated by a series of north-south trending ridges with a width of 150m or less which rise up to 15 meters or more above the surrounding area. In between the ridges the seabed is generally smoother and is composed of areas of flat coarse sediments and areas of mobile sandy bedforms. The gravely sands/sandy gravels represent a uniform habitat across the area. A variety of sandy bedforms cover parts of the seabed. The main Overfalls ridge or bank features are composed of gravely sediments. A range of important fish species—bass, turbot and brill, cod, rays (specifically blonde rays), tope, brown crab and sand eels can be found within the site. These fish species are thought to be attracted to the area by the dynamic and varied seabed habitats and the associated range of available prey species such as sand eels, crabs, shrimps and worms.
- ⁵The English Channel Outburst Flood Feature has been proposed as a feature for designation within this rMCZ. Although this feature covers a much wider area within the English Channel this is the only rMCZ proposed to protect it. It is a very large scale Glacial Process (erosion) feature, formed by a catastrophic flood that occurred some 400 000 years before present, when a land barrier at the Straits of Dover that had trapped meltwater in the North Sea became breached. The event left megaflood erosion features on the English Channel seabed including deeply-eroded channels. The selection assessment document for this site highlights interesting bathymetry in the form of sand and gravel bank features known as ‘the Overfalls’ (Balanced Seas 2011a). This rMCZ hosts a wide range of broad-scale habitats from rocky habitats to soft sediment habitats.
- ⁷The regional MCZ project recommendations state that this site was originally selected because of the existing Overfalls project but was progressively extended to incorporate an area of high biodiversity and broad-scale habitats (Balanced Seas 2011a). There are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This site overlaps with areas of high and medium benthic species biodiversity and an area of medium benthic biotope biodiversity (Langmead, et al. 2010).
 - This rMCZ is located in an area containing a seasonal thermal front. There are records for sightings of basking sharks in the far west of the rMCZ (Marine Conservation Society and the Shark Trust) and the rMCZ falls within the foraging radii for seabird species (RSPB). In addition to the presence of the highly mobile species FOCI *Raja undulata* there are nursery and spawning grounds for a number of fish species and within the local area (Ellis, et al. 2012).
 - Anecdotal information has indicated that this is important spawning and nursing site for the Blonde Ray (The Overfalls Group⁷⁵).

⁷⁴ http://theoverfallsgroup.org/index_files/Page1529.htm

⁷⁵ http://theoverfallsgroup.org/index_files/Page1529.htm

- An analysis of the numbers and distribution of seabirds found that there are medium elevated densities of Mediterranean gull in the west of the area, common gull during breeding in the north of the area, herring gull during breeding in the west of the area, of great black-backed gull during breeding in the north-west of the area, Sandwich tern during breeding in the far north-west corner of the area, common tern during breeding, and great cormorant during breeding. There is medium to high elevated densities of common gull during winter and high densities of black-headed gull during breeding and Sandwich tern during winter. This area is also bordering a high density location of Mediterranean gulls (Kober, et al. 2010).

Implications of the site not being designated:

- The Offshore Overfalls rMCZ makes a significant contribution towards achieving the representation, replication and adequacy guidelines for *Raja undulata* within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve these guidelines. This has added importance because it is the only rMCZ within the regional MCZ project area with *Raja undulata* as a feature for designation.
- If this site is not designated then the only opportunity for the English Channel Outburst Flood geological feature being a feature for designation would be missed.
- If this site was not designated then there would be a missed opportunity to include the Overfalls within the network, an area with high scientific value within this regional MCZ project area.

Site name: BS 21 Wight-Barfleur Extension rMCZ and BS RA 14 Wight-Barfleur recommended reference area (Balanced Seas) (JNCC)

Table 89 An overview of features proposed for designation within the Wight-Barfleur extension rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-activity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Maintain			BAP habitat
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Maintain			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 1					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 2					
Overlaps with existing MPAs				The rMCZ is adjacent to the Wight-Barfleur Reef pSAC and the Wight-Barfleur recommended reference area overlaps with the Wight-Barfleur Reef pSAC.					

Table 90 An overview of features within the Wight-Barfleur recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Subtidal sands and gravels	FOCI	✓	Recover to reference condition
A5.1 Subtidal coarse sediment	BSH	✓	Recover to reference condition
A4.1 High energy circalittoral rock	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ³		

Additional comments:

- ³ The boundary of the reference area overlaps with a small proportion of Wight-Barfleur pSAC to capture all subtidal coarse sediment available within the area.

Suggested amendments:

- None.

Summary of site benefits:

- The site contributes towards the achievement of ENG guidelines of representation, replication and adequacy for two broad-scale habitats and one habitat FOCI. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability and boundary guidelines.
- ¹ The site also includes with Glacial Process features including the English Channel Outburst Flood Feature and rock outcrop features, listed as a feature of interest in the ENG, although this has not been recommended as a primary feature for designation at this site. This is a very large scale Glacial Process (erosion) feature, formed by a catastrophic flood that occurred some 400 000 years before the present, when a land barrier at the Straits of Dover that had trapped meltwater in the North Sea became breached. The event left megaflood erosion features on the English Channel seabed including deeply-eroded channels.
- ² This rMCZ and the recommended reference area overlap with an area of medium benthic species biodiversity and medium benthic biotope biodiversity (Langmead, et al. 2010).

Implications of the site not being designated:

- If this site is not put forward for designation, there is still scope to achieve the ENG guidelines for the features listed for designation at this site, within the remaining rMCZs (and existing MPAs) in this region. It will also potentially reduce connectivity between those habitats present in this rMCZ.

Site name: rMCZ BS 26 Hythe Bay (and rRA 8 Hythe Flats) (Balanced Seas) (Natural England lead)

Table 91 An overview of features proposed for designation within Hythe Bay and how these contribute to the ENG targets for the regional MCZ project area and at a wider scale.

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.3 Subtidal mud	BSH	✓	✓	✓	None	Recover	This feature provides greater contribution to the adequacy target than any other site in the regional project		
Mud habitats in deep water	FOCI Habitat	X * 1	X	✓	Replication for this feature has not been met.	Recover	This is one of two rMCZs for this feature (minimum target is three).	This feature is not protected within existing MPAs.	BAP habitat
Sea-pens and burrowing megafauna	FOCI Habitat	✓	✓	✓	None	Recover	This is one of three sites for this feature (minimum is three which one has been captured in and existing MPA.	The biotope in this location is unusual and richer than the national biotope description.	OSPAR habitat

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	✓
Areas of Additional Ecological Importance	✓ * 2, 3, 6
Overlaps with existing MPAs	X

Table 92 rRA BS 8 Hythe Flats. An overview of features proposed for designation within the Hythe Flats recommended reference area (rRA 8) and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Mud habitats in deep water	FOCI Habitat	X * 4	Recover to reference condition
Sea-pens and burrowing megafauna	FOCI Habitat	X * 4	Recover to reference condition
A5.3 Subtidal mud	BSH	X * 5	Recover to reference condition
Site considerations			
Appropriate boundary	X * 4		

Additional comments:

- ¹ Replication for the FOCI habitat Mud habitats in deep water, has not been met. However, it should be noted that further examples do exist within the region but uncertainty surrounding the description of the habitat and therefore the validity of the records, prevented the regional project adding further examples. It is possible that more examples could be added.
- ⁴ **rRA 8:** The boundary could be extended to meet both features' viability guidelines in this reference area, but the RSG could not reach consensus on changing the boundaries of this site.
- ⁵ **rRA 8:** This feature was not the primary reason for designation and is too small to meet the viability target.

Suggested amendments:

- ⁴ **rRA 8:** The boundary could be extended to meet both features' viability guidelines in this reference area, but the RSG could not reach consensus on changing the boundaries of this site.

Summary of site benefits:

- This site is considered to be a Key Inshore Biodiversity Area within the Balanced Seas area (South-East England Biodiversity Forum, 2010).
- ² The sea pen and burrowing megafauna biotope is richer in this site than the national biotope description and is nationally distinctive due to the high species density (Balanced Seas 2011a). Samples contain Spoonworm (*Maxmuelleria lankesteri*), a dominance of Ampelisca (*tenuicornis/brevicornis*) in some places, the burrowing anemone (*Cerianthus llyodii*) and large burrowing shrimps (*Callinassa* and *Upogebia*). There is high abundance of the burrowing mollusc (*Saxicavella jeffreysi*). *Phoronis muelleri* and *P.pallida* also occur in the site (Kent Wildlife Trust (KWT) 2010, Tebble 1966).
- ³ Additional broad scale habitats occur in the site, but have not been proposed for designation because the targets have been met within the MPA elsewhere. These include: A2.2, A2.3, A2.4 (Balanced Seas 2011a). The FOCI habitat Ross worm reef *Sabellaria spinulosa* is present but it is not the best example in the region (data sourced from the EA database, 1983 and 1984). The FOCI species native oysters (*Ostrea edulis*), and FOCI and mobile species european eel (*Anguilla anguilla*), smelt (*Osmerus eperlanus*) and undulate rays (*Raja undulata*) also occur in this site (Balanced Seas 2011a).
- ⁶ The site provides foraging grounds for great cormorant and various Tern and Gull species (RSPB). Nursery and spawning areas for fish such as undulate ray and sole (Cefas).
- The burrowing mollusc, *Saxicavella jeffreysi* is highly abundant and found in the site at densities of almost 1000 individuals per m². This is uncommon in the British Isles (Tebble 1966).
- The mud habitats and associated species in this rMCZ may provide some beneficial ecosystem processes including the formation of species habitat and biogeochemical cycling (Fletcher, et al. 2012). The sea-pen and burrowing megafauna habitat can be important for the ecosystem service of fisheries (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated then the replication targets for sea-pen and burrowing megafauna FOCI will not be met in the region.
- This site provides the greatest contribution to the adequacy target for the BSH Subtidal mud; if this site was not designated then this feature will fall significantly below the adequacy target.
- If this site is not designated then there will only be one site within the region put forward to protect mud habitat in deep water habitats

Site name: rMCZ BS 28 Utopia (and rRA 13 North Utopia) (Balanced Seas) (Natural England Lead)

Table 93 An overview of features proposed for designation within Utopia and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Fragile sponge and anthozoan communities (on subtidal rocky habitat)	FOCI Habitat	✓ * 1	✓	✓ * 2	N/A	<i>Recover</i>	Replication is at its minimum.	This is one of two regional occurrences of this feature. This feature is not protected within existing MPAs.	BAP habitat - UK obligation, decline, key species, functional habitat
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 2					
Areas of Additional Ecological Importance				X					
Overlaps with existing MPAs				X					

Table 94 rRA BS 13 North Utopia. An overview of features proposed for designation within North Utopia recommended reference area (rRA 13) and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Fragile sponge and anthozoan communities	FOCI Habitat	✓ * ³	Recover to reference condition
Subtidal sands and gravels	FOCI Habitat	X * ³	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	X * ⁴	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ⁵		

Additional comments:

- ¹ Replication is at its minimum for this feature.
- ² Although the site appears small, viability for the FOCI habitat fragile sponge and anthozoan communities on subtidal rocky habitats, is dependent on a minimum patch diameter of 1k which is met for the rMCZ. The full extent of the subtidal rocky reef feature which supports the fragile sponge and anthozoan communities has been proposed for protection, so there is significant conservation value. The potential size of the site is also limited by the nearby aggregate Licence Area 395.
- **rRA 13:** ³ Viability for the FOCI habitat fragile sponge and anthozoan communities on subtidal rocky habitats, is dependent on a minimum patch diameter of 1km, and the FOCI habitat sands and gravel 5km. This is not met for either FOCI at this site. The site could be extended to incorporate more of the features in the wider rMCZ.
- **rRA 13:** ⁴ The site does not meet the viability criteria (5km²) for the BSH Subtidal mixed sediments.
- **rRA 13:** ⁵ The SAP have previously advised that the rRA be extended (to incorporate the whole of the rMCZ) so that more of the primary feature, fragile sponge and anthozoan communities, is protected. This would also enable the viability target for subtidal sands and gravels to be met. The advice was not accepted by stakeholders and therefore the size of the RA was retained as the minimum viable size for the primary feature of interest. We advise that the SAP advice be reconsidered as a larger RA would be ecologically beneficial.

Suggested amendments:

- **rRA 13:** ³ Viability for the FOCI habitat fragile sponge and anthozoan communities on subtidal rocky habitats, is dependent on a minimum patch diameter of 1k, and the FOCI habitat sands and gravel 5km. This is not met for either FOCI at this site. **The site could be extended to incorporate more of the features in the wider rMCZ**
- **rRA 13:** ⁵ The SAP have previously advised that the rRA be extended (to incorporate the whole of the rMCZ) so that more of the primary feature, fragile sponge and anthozoan communities, is protected. This would also enable the viability target for subtidal sands and gravels to be met. The

advice was not accepted by stakeholders and therefore the size of the RA was retained as the minimum viable size for the primary feature of interest. **We advise that the SAP advice be reconsidered as a larger RA would be ecologically beneficial.**

Summary of site benefits:

- There is scientific value in this site because it is well studied with good data (EMU Ltd 2010, SeaSearch 2005).
- The bedrock feature, supporting a highly diverse and abundant community of sponges, anthozoans, hydroids and bryozoans, is thought to be a locally unique habitat.

Implications of the site not being designated:

- If this site were not put forward for designation then this rich example of FOCI habitat fragile sponge and anthozoan communities, one of only two in the region, would not be protected, and the replication target would not be met.

Site name: rMCZ BS 08 Goodwin Sands (and rRA 6 Goodwin Knoll) (Balanced Seas) (Natural England lead)

Table 95 An overview of features proposed for designation within Goodwin Sands and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓	None	Maintain	This site has the greatest contribution to the adequacy target		
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Maintain			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain	This BSH is currently only reaching the minimum adequacy target.	This site has the greatest contribution to the adequacy target	
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain	This site has the greatest contribution to the adequacy target		
Blue mussel <i>Mytilus edulis</i> beds	FOCI Habitat	✓	✓	✓ * 1	None	Maintain			OSPAR habitat and BAP habitat - UK obligation, decline, functional

									habitat
Ross worm <i>Sabellaria spinulosa</i> reef	FOCI Habitat	✓	✓	✓	None	Maintain			BAP and OSPAR habitat
Site considerations									
Connectivity				✓ * 2					
Geological/Geomorphological features of interest				English Channel Outburst Flood Features * 3					
Appropriate boundary				✓ * 4					
Areas of Additional Ecological Importance				✓ * 5, 6					
Overlaps with existing MPAs				X					

Table 96 rRA 6 Goodwin Knoll (Balanced Seas) (Natural England lead) within rMCZ 08. An overview of features proposed for designation within recommended reference area Goodwin Knoll and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A5.1 Subtidal coarse sediment	BSH	✓ * 7	Recover to reference condition
A5.2 Subtidal sand	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ¹ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included so is considered viable.
- ² The connectivity target has been met for all EUNIS Level 2 except for A3 which is naturally patchy in distribution.
- ³ Part of the geological feature English Channel Outburst Flood Features occurs within the site forming the deep channel running through the eastern part of the site. This geomorphological feature is evidence of a megaflood which occurred some 200,000 years ago when huge glacial lakes in the North Sea burst through the Dover Straits Isthmus which contained it, thus separating England from mainland Europe. Sonar evidence of the seabed reveals deeply gouged channels where the floodwaters broke through (Gupta, et al. 2007).
- ⁴ The boundary of the rMCZ roughly follows the ENG guidelines as far as it uses a minimum number of straight lines and is as compact a shape as possible, and the boundary is drawn around areas of regular/predictable species concentration using the best available data.

- ⁵ The site provides foraging grounds for Sandwich tern, great cormorant, fulmar, gannet and black-legged kittiwake, and nursery and spawning grounds for commercially important fish such as cod, sand eel and plaice. Thought to be a spawning ground for Thornback Ray.
- ⁶ Important haul-out area for grey and common seals (Bramley and Lewis 2004, Lewis 2006).
- This site is an area of high biodiversity, high benthic species taxonomic distinctiveness and richness (Defra n.d.).
- This is a Key Inshore Biodiversity Area advised by the SEEBF.
- **rRA 6:** ⁷ This recommended reference area is viable size but more of this feature could be captured if you extend or move the boundary north.

Suggested amendments:

- **rRA 6:** ⁷ This recommended reference area is viable size **but more of this feature could be captured if you extend or move the boundary north.**

Summary of site benefits:

- One of two primary seal haul-out sites in the south and south-east England regions. This site is the most important for grey seals (Bramley and Lewis 2004; Lewis, 2006). Haul-out sites are assumed to be close to biodiversity hot-spots for a range of fish and crustacean species (Pers.Comms).
- Important area for benthic species taxonomic distinctness, benthic species richness and regular pelagic seasonal front (Defra n.d.), area of additional pelagic ecological interest (Kent Wildlife Trust Pers. Comms), great cormorant and black kittiwake foraging ranged (RSPB Pers. Comms), fulmar and gannet seasonal foraging areas (RSPB Pers. Comms cited at (Balanced Seas 2011c).
- Key Inshore Biodiversity Areas in Balanced Seas for mussel beds, *Sabellaria* reefs and seals (Balanced Seas 2011a).
- Frequent sightings of Thornback Rays laying eggs mainly in Spring and September, which could mean that this site is an established spawning ground for species.
- Habitat might lend it to be an important site for spawning for other species such as Sand Eel and cod
- Commercial fish species such as cod, whiting, red mullet, squid, plaice, Dover sole and Dogfish also occur in the area
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Subtidal biogenic reefs play a major role in the global carbon cycle and act as a major store of carbon. These 'living' reefs play an important role in fixing and processing nutrients from the seawater into the benthic environment. Biogenic reefs provide habitat for shellfish and fish which are exploited by the fishing industry, and a range of microhabitats for colonisation by other organisms such as molluscs, echinoderms, and fish. They also have an important role to play in improving water quality through water filtration processes (Fletcher, et al. 2012).
- *Sabellaria spinulosa* stabilises mobile sediment which allows diverse epifaunal and infaunal species not found in other habitats to establish communities in a multitude of niches. Communities associated with *M. modiolus*, *S. spinulosa* and *Serpula vermicularis* are generally known to be extremely rich. The close association between *S. spinulosa* and the pink shrimp *Pandalus motagui* has led to intensive fishing of these reefs (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site does not go forward for designation then the adequacy guidelines will not be met for BSH A3.2, A5.1 and A5.2

Site name: rMCZ BS 11.1 Dover to Deal (and rRA 7 South Foreland Lighthouse) (Balanced Seas) (Natural England lead)

Table 97 An overview of features proposed for designation within Dover and Deal and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain	This feature provides the second greatest (joint with site 13.2) contribution to the adequacy target than any other site in the regional project		
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain	This site is the only rMCZ with this feature but one of three for the MPA	This site provides the greatest contribution to the adequacy target for this feature	
A3.1 High energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Recover			

A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Recover			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓ * 2	None	Maintain			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓ * 2	None	Maintain			
Blue mussel <i>Mytilus edulis</i> beds	FOCI Habitat	✓	✓	✓ * 3	None	Maintain			OSPAR habitat and BAP habitat - UK obligation, decline, functional habitat
Intertidal underboulder communities	FOCI Habitat	✓	✓	✓	None	Maintain			BAP habitat - UK obligation, decline, functional habitat
Littoral chalk communities	FOCI Habitat	✓	✓	✓	None	Recover			BAP and OSPAR habitat
Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	✓	✓	✓	None	Recover		Best regional example of this habitat, found intertidally and subtidally.	BAP and OSPAR habitat
Subtidal chalk	FOCI Habitat	✓	✓	✓	None	Recover			BAP habitat
Site considerations									
Connectivity				✓ * 4					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 5					
Areas of Additional Ecological Importance				✓ * 6, 7					
Overlaps with existing MPAs				X					

Table 98 rRA 7 South Foreland Lighthouse (Balanced Seas) (Natural England lead) within rMCZ 11.1. An overview of features proposed for designation within recommended reference area South Foreland Lighthouse and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A1.1 High energy intertidal rock	BSH	X	Recover to reference condition
A1.2 Moderate energy intertidal rock	BSH	X	Recover to reference condition
Intertidal underboulder communities	FOCI Habitat	✓ * ⁸	Recover to reference condition
Littoral chalk communities	FOCI Habitat	X	Recover to reference condition
Subtidal chalk	FOCI Habitat	✓	Recover to reference condition
A3.1 High energy infralittoral rock	BSH	X	Recover to reference condition
A5.4 Subtidal mixed sediment	BSH	X	Recover to reference condition
Site considerations			
Appropriate boundary	✓* ⁹		

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH. However, the site has captured all the feature and it is constrained naturally by the coastline, so is considered viable.
- ² More example of the BSH Subtidal mixed sediments could be captured by extending the boundary seaward but the adequacy target has been met for this feature.
- ³ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included so considered viable.
- ⁴ The connectivity target has been met for all EUNIS Level 2 except for A3 which is naturally patchy in distribution.
- ⁵ The boundary of the rMCZ roughly follows the ENG guidelines as far as it uses a minimum number of straight lines and is as compact a shape as possible, and the boundary is drawn around areas of regular/predictable species concentration using the best available data.
- ⁶ Sea anemone (*Diadumene cincta*), Ross coral (*Pentapora foliacea*), sea squirt beds and the rare stalked jellyfish (*Craterolophus convolvulus*) have all been recorded within this site.
- ⁷ Foraging grounds for Tern and Gull spp. Nursery and spawning grounds for fish.
- **rRA 7:** ⁸ Viability for the FOCI habitat intertidal underboulder communities is dependant on a minimum patch size (1km) which is not met here, or where the whole patch is included. All records of the feature have been captured within the site and therefore it s viable.
- **rRA 7:** ⁹ The site would need to be extended to meet BSH viability guidelines. The site could also be extended along the coast to capture more littoral chalk habitat, to improve viability.

Suggested amendments:

- ² **More example of the BSH Subtidal mixed sediments this feature could be captured by extending the boundary seaward** but the adequacy target has been met for this feature.
- **rRA 7:** ⁹ **The site would need to be extended to meet BSH viability guidelines. The site could also be extended along the coast to capture more littoral chalk habitat, to improve viability.**

Summary of site benefits:

- Highly diverse area with a number of habitat FOCI and additional features of interest including chalk ledges and gullies.
- Excellent examples of littoral chalk communities on intertidal and subtidal chalk reefs. The wave-cut intertidal chalk in this site is considered to be the best example of the habitat in the region (Balanced Seas 2011a).
- Very good regional examples of intertidal underboulder communities supporting examples of rare sponges.
- Excellent example of *Sabellaria spinulosa* reefs.
- Inbetween the *Sabellaria* reefs are some of the best stocks of discrete intertidal blue mussels beds on rocks in the Kent and Essex area, forming an area of high heterogeneity (Balanced Seas 2011a).
- Sea anemone (*Diadumene cincta*), Ross coral (*Pentapora foliacea*), sea squirt beds and the rare stalked jellyfish *Craterolophus convolvulus* have all been record within this site.
- This site is part of one of the Key Inshore Biodiversity Areas in the Balance Sea Region (South East England Biodiversity Forum (SEEBF) 2010).
- An important plant area. The intertidal chalk supports a variety of algae and St Margarets is considered to be the richest algal community in south-east England (Tittley 1986, Brodie, et al. 2007).
- High level of habitat complexity through intertidal to subtidal chalk with mussel beds and Sabellaria.
- This site is very diverse and has high benthic biotope richness.
- This site is well studied.
- Underboulder communities are entirely different from those communities present on the tops and sides of boulders. The intistitial spaces form microhabitats greatly add to shoreline biodiversity providing opportunity for education and research. The shade, moisture and sheltered conditions offer habitat to species which would otherwise not survive the harsh conditions. The habitat provides niches for a range of encrusting species, sponges, bryozoans (sea mats), and ascidians (sea squirts; refuge for young shellfish, and predator protection for fish species such as blennies (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal mud is a highly productive ecosystem and is an important feeding ground for wading and migratory birds that is available all year round. This habitat plays a crucial role in primary biomass production through the biofilm made up of microalgae at the air-mud interface. Intertidal mudflats are desirable areas for carbon storage due to the higher sedimentation rates than some other habitats such as freshwater wetlands (Fletcher, et al. 2012).

- *Sabellaria spinulosa* stabilises mobile sediment which allows diverse epifaunal and infaunal species not found in other habitats to establish communities in a multitude of niches. Communities associated with *M. modiolus*, *S. spinulosa* and *Serpula vermicularis* are generally known to be extremely rich. The close association between *S. spinulosa* and the pink shrimp *Pandalus motagui* has led to intensive fishing of these reefs (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated then there is a risk that the adequacy target for BSH A3.1 will not be met.
- If this site is not designated then there is a risk that the replication target will be missed for Intertidal underboulder communities.

Site name: rMCZ BS 11.2 Dover to Folkestone (Balanced Seas) (Natural England lead)

Table 99 An overview of features proposed for designation within Dover to Folkestone and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guideline s	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓	None	Maintain	This feature provides greater contribution to the adequacy target than any other site in the regional project		
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A3.1 High energy infralittoral rock	BSH	✓	✓	✓	None	Recover			
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓	None	Recover	The feature is close to the minimum adequacy target in the project region.		

A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
Blue mussel <i>Mytilus edulis</i> beds	FOCI Habitat	✓	✓	✓ * 1	None	Recover			OSPAR habitat and BAP habitat - UK obligation, decline, functional habitat
Intertidal underboulder communities	FOCI Habitat	✓	✓	✓	None	Maintain	One of four examples in the region, one example of this feature is already protected by the existing MPA (minimum target is three)	One of the best examples in the region	BAP habitat - UK obligation, decline, functional habitat
Littoral chalk communities	FOCI Habitat	✓	✓	✓ * 2	None	Recover			BAP and OSPAR habitat Well-studied area
Peat clay exposures	FOCI Habitat	✓	✓	✓	None	Maintain			BAP habitat - key species, functional habitat
Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	✓	✓	✓ * 3	None	Recover		One of the best examples in the region.	BAP and OSPAR habitat
Subtidal chalk	FOCI Habitat	✓	✓	✓	None	Recover			BAP habitat Well-studied area
Subtidal sands and gravels	FOCI Habitat	✓	✓	✓ * 4	None	Maintain			BAP habitat
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Maintain		This feature is not protected within existing MPAs.	BAP and OSPAR species

Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI Species	✓ * 10	✓	✓	None	Maintain	This site is one of four for this feature, but there are no records of the feature within the MCZ.	OSPAR species and BAP species - International threat. Listed on Schedule 5 Wildlife and Countryside Act
Site considerations								
Connectivity				✓ * 5				
Geological/Geomorphological features of interest				✓ * 6				
Appropriate boundary				✓ * 7				
Areas of Additional Ecological Importance				✓ * 8				
Overlaps with existing MPAs				✓ * 9				

Additional comments:

- ¹ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included, so considered viable.
- ² Additional feature could be captured by extending the boundary westward, however, the MCZ would then overlap with Folkestone Harbour. This feature is over the replicate target.
- ³ Additional area of the feature could be included in this site by extending its boundary, but the feature is not continuous in its coverage. Being a biogenic reef structure, it is felt the best population has been captured in the site.
- ⁴ Additional areas of this feature could be included in this site by extending the boundary, but this feature is already above the adequacy target.
- ⁵ The connectivity target has been met for all EUNIS Level 2 except for A3 which is naturally patchy in distribution.
- ⁶ Active processes on the cliffs and foreshore are protected through the SSSI (Folkestone Warren).
- ⁷ The boundary of the rMCZ roughly follows the ENG guidelines as far as it uses a minimum number of straight lines, is as compact a shape as possible, and the boundary is drawn around areas of regular/predictable species concentration using the best available data.
- ⁸ The site contains Ross coral, Peacock worm, Molgula beds and various sea anemone species. Also FOCI mobile species European eel (*Anguilla anguilla*), Smelt (*Osmerus eperlanus*) and undulate rays (*Raja undulata*) occurs here but they are not identified as a conservation priority.
- ⁹ Folkstone Warren SSSI
- ¹⁰ There are no records of *Hippocampus hippocampus* within the MCZ, but it should be noted they are notoriously difficult to spot.

Suggested amendments:

- ³ **Additional area of the feature could be included in this site by extending its boundary**, but the feature is not continuous in its coverage. Being a biogenic reef structure, it is felt the best population has been captured in the site.
- ⁴ Additional areas of this feature could be included in this site by extending the boundary, but this feature is already above the adequacy target.

Summary of site benefits:

- This site is one of three examples proposed for designation for the feature intertidal underboulder communities. Throughout the region there are only four examples within the MPA network. This site is one of the best examples of this feature in the region.
- This site is proposed to protect wave-cut intertidal chalks platforms that form almost a continuous reef between Kingsdown, Deal, in the north-east to Folkstone Warren in the south-east. The wave-cut platforms support a huge diversity of marine plants and animals and are a superb example of littoral chalk communities. Within the wave-cut platform there are gullies that can be 2m in depth.
- This is the only place in Kent where the brown alga *Desmarestia ligula* occurs.
- Within the region this site is one of a few places where hard rock forms on the intertidal, and as a result contain seaweed examples that are unusual to the south-east but more typical of the south-west.
- The ross worm reef is the most extensive and intact in the region.
- Foraging grounds for various tern and gull spp. Nursery and spawning grounds for fish such as sole, undulate ray and herring.
- This site is highly diverse with a number of FOCI. It is an area of high benthic biotope and species richness (Balanced Seas 2011a).
- Considered to be one of the most important marine biological sites in the south-east (Tittley 1989).
- One of the best examples of *Sabellaria spinulosa* reef, intact, in the region. It also unusually occurs intertidally.
- A Key Inshore Biodiversity Area as advised by the South-East England Biodiversity Forum (South East England Biodiversity Forum (SEEBF) 2010).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion.
- Subtidal biogenic reefs play a major role in the global carbon cycle and act as a major store of carbon. These 'living' reefs play an important role in fixing and processing nutrients from the seawater into the benthic environment. Biogenic reefs provide habitat for shellfish and fish which are exploited by the fishing industry, and a range of microhabitats for colonisation by other organisms such as molluscs, echinoderms, and fish. They also have an important role to play in protecting coasts through the reduction of incoming wave energy and improving water quality through water filtration processes (Fletcher, et al. 2012).
- Subtidal chalk is often bored by bivalve molluscs, such as the common piddock (*Pholas dactylus*) and empty bore holes provide habitat for a range of crevice dwelling animals. In some examples piddock holes have created particularly species rich habitats used by a range of invertebrates, shellfish (crabs), and worm species (Fletcher, et al. 2012).

- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012)
- Underboulder communities are entirely different from those communities present on the tops and sides of boulders. The interstitial spaces form microhabitats greatly add to shoreline biodiversity providing opportunity for education and research. The shade, moisture and sheltered conditions offer habitat to species which would otherwise not survive the harsh conditions. The habitat provides niches for a range of encrusting species, sponges, bryozoans (sea mats), and ascidians (sea squirts; refuge for young shellfish, and predator protection for fish species such as blennies (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated this MPA network will not capture one of the best examples of intertidal underboulder communities in the region. It also may miss the replication target for this feature.
- If this site is not designated the MPA network may miss the replication target for *Hippocampus hippocampus*.
- If this site is not designated this MPA network will not capture the most extensive and intact ross worm reef in the region
- If this site does not get taken forward the region is unlikely to meet the adequacy target for A1.2
- If this site does not go forward the support for 26, 11.1, 11.4 will be removed and may affect many guidelines.

Site name: rMCZ BS 11.4 Folkestone Pomerania (and rRA 25 Flying Fortress)(Balanced Seas) (Natural England lead)

Table 100 An overview of features proposed for designation within Folkestone Pomerania and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommend ed conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓ * 1	None	Recover			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓ * 2	✓ * 3	None	Recover			
Blue mussel <i>Mytilus edulis</i> beds	FOCI Habitat	✓	✓	✓ * 4	None	Recover			OSPAR habitat and BAP habitat - UK obligation, decline, functional habitat
Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	✓	✓	✓ * 5	None	Recover		This site supports unusual associated biotopes on mud habitats not seen elsewhere in the region.	

Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	✓ * 13	✓	✓	None	Recover	This is one of two regional occurrences of this feature	This is one of two regional occurrences of this feature	BAP habitat - UK obligation, decline, key species, functional habitat
Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	✓ * 6	✓	✓ * 6	None	Recover	This is one of two regional occurrences of this feature	This is one of two regional occurrences of this feature	BAP
Subtidal sands and gravels	FOCI Habitat	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 1					
Areas of Additional Ecological Importance				✓ * 8, 9, 10					
Overlaps with existing MPAs				X					

Table 101 rRA 25 Flying Fortress (Balanced Seas) (Natural England lead) within rMCZ 11.4. An overview of features proposed for designation within recommended reference area Flying Fortress recommended reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Ross worm <i>Sabellaria spinulosa</i> reef	FOCI	✓ * 11	Recover to reference condition
Honeycomb worm <i>Sabellaria alveolata</i> reef	FOCI	✓ * 12	Recover to reference condition
A5.1 Subtidal coarse sediment	BSH	X	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * 9		

Additional comments:

- ¹ The site has met the viability target of 5km² for this Broadscale Habitat, but additional moderate energy circalittoral rock could have been protected within the site. However, the regional stakeholder comments (Balanced Seas 2010b) indicate that UK seemap data may not correspond fully with the known rock ledges, cliffs and boulder strewn platform, waiting for high quality multibeam data that should inform site verification. This feature has met adequacy guidelines across the Balanced Seas region.
- ² BSH Subtidal sand is just above the minimum adequacy threshold in the region.
- ³ Although the site does meet the viability target (5km²) for the BSH Subtidal sand, additional areas of BSH Subtidal sand, could be included in the rMCZ by extending its boundary which would improve adequacy. However, this could have socio-economic impacts.
- ⁴ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) / is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included so is considered viable.
- ⁵ The FOCI habitat *Sabellaria spinulosa* has reached its viability target (min patch of 0.5km diameter), but viability could be improved as additional areas of the feature could be included in this site by extending its boundary.
- ⁶ This site is only one of two examples of the FOCI habitat *Sabellaria alveolata* reefs in the region, both within MCZs so the replication criteria is met. This site is also thought to be the best area to confidently capture biogenic reef in the region, and It is felt the best area of biogenic reef has been captured in the site.
- ⁷ The boundary of the rMCZ roughly follows the ENG guidelines as far as it uses a minimum number of straight lines. The site is one of four that would get industry support if they all go forward as designation, therefore the boundary may be constrained by socio- economics.
- ⁸ There are features which occur in this site, that have not been proposed for designation as it was felt that this site is not a suitable place to include Native Oysters (*Ostrea edulis*), European eels (*Anguilla anguilla*), smelt (*Osmerus eperlanus*) and undulate ray (*Raja undulata*) for designation.
- BSH A3.2 could be included in this site but it is not a viable patch and there is uncertainty of its location (Balanced Seas 2011a).
- ⁹ The site contains regionally rare features identified by the Wildlife Trusts such as Ross coral (*Pentapora foliacea*) and the sea anemone (*Diudumene cincta*) (Balanced Seas 2011a).
- ¹⁰ The site supports mobile species such as crabs and squat lobsters as well as providing refuge for fish (Balanced Seas 2011a).
- ¹³ There are only two examples of this feature in the region and both are represented in the MPA network so the replication criteria is met. N.B. It is in Natural England's opinion that Table 6 in the Final Recommendations report (Balanced Seas 2011a) is incorrect: this feature is not protected in any existing MPAs in the region, and therefore the number of replicates is 2, rather than 3.
- **rRA 25:** ¹¹ The overall size of the reference area meets the guidelines for viability. *Sabellaria* is patchy in its distribution.
- **rRA 25:** ¹² The boundaries follow the ENG guidelines. There are records of features outside of the site which could be included if the site was made larger than the minimum size.

Suggested amendments:

- ³ Although the BSH Subtidal sand does reach the viability target, additional areas of the feature could be included in the rMCZ by extending its boundary which would improve viability and adequacy.
- ⁵ The FOCI habitat *Sabellaria spinulosa* has reached its viability target (min patch of 0.5km diameter), but **viability could be improved as additional areas of the feature could be included in this site by extending its boundary.**
- **rRA 25:** ¹² The boundaries follow the ENG guidelines. **There are records of *Sabellaria alveolata* outside of the site which could be included if the site was made larger than the minimum size.**

Summary of site benefits:

- One of two examples of fragile sponge and anthozoan communities on subtidal rocky habitats in the region (Balanced Seas 2011a).
- One of two examples of honeycomb worm reef in the region (Balanced Seas 2011a).
- This site contains large depressions in the seabed, falling from around 22m-30m. At the top edges of these large depressions are exposed rock ledges, and a flat or gently sloping boulder-strewn platform, supporting a rich attached assemblage of fauna such as sponges, anemones, sea squirts, hydroids and bryozoans. These rich communities represent a very rare example of the Habitat FOCI 'fragile sponges and anthozoan communities on subtidal rocky habitats (Balanced Seas 2011a).
- Dense biogenic reefs of Ross worms on underlying muddy sediments are present in this site. These reefs are extremely unusual as they contain many of the animals associated with both the *Sabellaria* reef biotope, offshore mud biotopes with bivalve molluscs and *Sabellaria alveolata* reef biotope, offshore mud biotopes. This mix of biotopes is not known to occur elsewhere in the Balanced Seas area.
- Foraging grounds for various Tern and Gull spp. (Balanced Seas 2010b). Nursery and spawning grounds for fish such as Sole, Cod, Mackerel and Herring (Balanced Seas 2011c).
- Distinctive local features include *Pentapora* colonies and *Diadumene cincta* assemblages (Balanced Seas 2011a).
- Subtidal biogenic reefs such as blue mussel beds play a major role in the global carbon cycle and act as a major store of carbon. These 'living' reefs play an important role in fixing and processing nutrients from the seawater into the benthic environment. Biogenic reefs provide habitat for shellfish and fish which are exploited by the fishing industry and a range of microhabitats for colonisation by other organisms such as molluscs, echinoderms, and fish. They also have an important role to play in protecting coasts through the reduction of incoming wave energy and improving water quality through water filtration processes (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site does not go forward for designation the minimum adequacy target for subtidal sand may not be met.

- If this site does not go forward, there will be only one site for fragile sponge and anthozoan communities on subtidal rocky habitats and Honeycomb worm reef in this region.

Site name: rMCZ 13.1 Beachy Head East (Balanced Seas) (Natural England lead)

Table 102 An overview of features proposed for designation within Beachy Head East and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain	This BSH is currently only reaching the minimum replication target		
A1.2 Moderate energy intertidal rock * 2	BSH	✓	✓	✓ * 1	None	Maintain	This feature overlaps and is already protected by an MPA* ²		
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓	None	Maintain			
A5.2 Subtidal sands * 3	BSH	✓	✓	✓	None	Recover	This feature provides the second greatest contribution to the adequacy target for the region		

A5.4 Subtidal mixed sediments * 3	BSH	✓	✓	✓	None	Recover			
Blue mussel <i>Mytilus edulis</i> beds	FOCI Habitat	✓	X	X * 4	Viability is not met.	Recover		One of the best examples of this habitat in the region	BAP and OSPAR habitat
Littoral chalk communities * 11	FOCI Habitat	✓	✓	✓	None	Maintain		Excellent example of littoral chalk communities which forms a continuous extension of the same habitat found in rMCZ13.2	BAP and OSPAR habitat
Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	✓	✓	✓ * 5	None	Recover			BAP habitat
Subtidal chalk	FOCI Habitat	✓	✓	✓	None	Maintain			BAP habitat
Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI Species	✓	✓	✓ * 6	None	Maintain		This feature is not protected within existing MPAs.	BAP and OSPAR species and listed on Schedule 5 of the Wildlife and Countryside Act
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Recover		This feature is not protected within existing MPAs.	BAP and OSPAR species
European eel <i>Anguilla anguilla</i>	FOCI Mobile Species	✓	✓	N/A	None	Maintain			BAP and OSPAR species

Peat and clay exposures	FOCI Habitat	✓	✓	✓	N/A	Maintain	N/A	N/A	BAP habitat
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 7					
Areas of Additional Ecological Importance				✓ * 8					
Overlaps with existing MPAs				✓ * 9					

Additional comments:

- ¹ This site does meet the minimum viability criteria (5km²) for the intertidal Broad scale habitats: High energy intertidal rock, Moderate energy intertidal rock, Intertidal coarse sediment, and Intertidal mixed sediments. The extent of these BSH are captured within the site, except Intertidal coarse sediment which extends beyond the boundary.
- ² This feature is already protected and overlaps with the SSSI.
- ³ These Broad-scale habitats are a result of incorporating the Regional Environmental Characterisation (REC) dataset from the Marine Aggregate Levy Sustainability Fund (MALSF). This dataset was defined in newly proposed EUNIS Level 4 habitats which were more detailed than EUNIS Level 3, the level suggested in the ENG at which were used to assess ecological targets. The REC data had to be translated back to the coarser EUNIS Level 3 which has led to these habitats having conservation objectives. It is important to note the RSG **did not therefore originally propose these specific habitats for protection**, but the finer scale EUNIS Level 4 habitats highlighted by the REC data.
- ⁴ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is not included, so is not considered viable. Stakeholders feel that this feature is much more extensive than the spatial data shows, however the data from the regional project does show the feature to all be within the site.
- ⁵ There are records of this feature outside the rMCZ boundary; however it is possible that the boundary was drawn to capture the best examples of this biogenic reef.
- ⁶ Difficult to confirm stable populations of the seahorse, therefore it is difficult to know whether extending the boundary would or would not capture more populations, although it is currently viable for them.
- ⁷ The boundary of the rMCZ roughly follows the ENG guidelines as far as it uses a minimum number of straight lines
- ⁸ Herring spawning ground, possible nursery grounds for Plaice and Dover sole. Foraging ground for black-headed gulls, black-legged kittiwake and the common tern. Subtidal chalk ledges and peat and clay exposure support littoral chalk communities, *Sabellaria spinulosa* reefs, sea squirt (Mogula) beds and encrustations of Ross coral (R. Irving 1996, Brodie, et al. 2007, East Sussex County Council 1998, James, Pearce, et al. 2011). Unique fragile shallow reefs also occur in the site (R. Irving 1996).

- ⁹ Seaford to Beachy Head SSSI, and two Marine Sites of Nature Conservation Interest (mSNCI); these are non-statutory designated sites, designated on account of their special interest with regards to habitat, wildlife, geology or geomorphology by East and West Sussex County Council (R. Irving 1996).
- ¹¹This feature is protected within the Seaford to Beachy Head SSSI.

Suggested amendments:

- ⁴ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is not included, so is not considered viable. **Stakeholders feel that this feature is much more extensive than the spatial data shows, however the data from the regional project does show the feature to all be within the site.**

Summary of site benefits:

- Site is characterised by a highly biodiverse sandstone /chalk reef system (R. Irving 1996, Brodie, et al. 2007, East Sussex County Council 1998, James, Pearce, et al. 2011).
- Subtidal chalk ledges and peat and clay exposure support littoral chalk communities, *Sabellaria spinulosa* reefs, sea squirt (Mogula) beds and encrustations of Ross coral (R. Irving 1996, Brodie, et al. 2007, East Sussex County Council 1998, James, Pearce, et al., The South Coast Regional Environmental Characterisation. 2010). Unique fragile shallow reefs also occur in the site (R. Irving 1996).
- Mussel beds are considered to be one of the best examples of this habitat in the region (Balanced Seas 2011a).
- The Royal Sovereign Shoals area is one of the Key Inshore Biodiversity Forum (South East England Biodiversity Forum (SEEBF) 2010) and was also one of the recommendations put forward by the Marine Conservation Society as part of their 'Your sea your Voice' Campaign (Marine Conservation Society (MCS) 2011).
- There is scientific value in this site because it is a well-studied site with good data, and there is are range of habitats that are not found anywhere else in the MCZ project area (Browning 2002).
- Littoral chalk is known to be important for the formation of species habitat; subtidal chalk and peat and clay exposures are thought to be important for species diversification and formation of species habitat (Fletcher, et al. 2012). *Hippocampus hippocampus* is known to be important for larval/gamete supply and food web dynamics (Fletcher, et al. 2012). Blue mussel beds are known to be important for water quality (Fletcher, et al. 2012). Intertidal rock is known to be important for beneficial ecosystem processes including primary and secondary production (Fletcher, et al. 2012).
- Biogenic reefs play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonisation by other organisms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection. Mussel reefs are also an important food source for birds and have a strong stabilising effect on the sediment, thereby countering erosive wave action (Fletcher, et al. 2012).

- ***Sabellaria spinulosa*** stabilises mobile sediment which allows diverse epifaunal and infaunal species not found in other habitats to establish communities in a multitude of niches. Communities associated with *M. modiolus*, *S. spinulosa* and *Serpula vermicularis* are generally known to be extremely rich. The close association between *S. spinulosa* and the pink shrimp *Pandalus motagui* has led to intensive fishing of these reefs (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Subtidal chalk is often bored by bivalve molluscs, such as the common piddock (*Pholas dactylus*) and empty bore holes provide habitat for a range of crevice dwelling animals. In some examples piddock holes have created particularly species rich habitats used by a range of invertebrates (Fletcher, et al. 2012).
- High level of support from the local fishing community (site was put forward by them).

Implications of the site not being designated:

- If this site was not taken forward for designation only one example of BSH A1.1 high energy intertidal rock, would remain in the whole regional MCZ project area (the other site is Blackwater, Crouch, Roach and Colne) and the replication target would not be met.
- If this site was not taken forward, there is a risk that BSH A5.2 Subtidal sands will not meet the adequacy guidelines.

Site name: rMCZ 13.2 Beachy Head West (and rRA 9 Belle Tout to Beachy Head Lighthouse) (Balanced Seas) (Natural England lead)

Table 103 An overview of features proposed for designation within Beachy Head West and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative consideration s at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain	This feature overlaps and is fully protected within an existing MPA.		
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓*1	None	Maintain			
A5.2 Subtidal sand * 3	BSH	✓	✓	X * 2, 3	Not viable	Maintain			
A5.3 Subtidal mud * 3	BSH	✓	✓	X * 2, 3	Not viable	Maintain			
A5.4 Subtidal mixed sediment * 3	BSH	✓	✓	X * 2, 3	Not viable	Maintain			
Blue mussel <i>Mytilus edulis</i> beds	FOCI Habitat	✓	✓	✓ * 4	None	Maintain			OSPAR and BAP habitat – UK obligation, decline, functional habitat

Littoral chalk communities	FOCI Habitat	✓	✓	✓ * 5	None	Recover		This feature is considered to be one of the best examples in the region	BAP and OSPAR habitat
Subtidal Chalk	FOCI Habitat	✓	X	X * 2	Not viable	Maintain		This feature is considered to be one of the best examples in the region	BAP habitat
Long-snouted seahorse <i>Hippocampus guttulatus</i>	FOCI Species	X * 6	X	✓ * 6, 7	Replication target not met	Maintain	This site is one of two rMCZs for this feature	This feature is not protected within existing MPAs	Internationally threatened, BAP and OSPAR species. Listed on Schedule 5 of the Wildlife and Countryside Act
Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI Species	✓	✓	✓ * 8	None	Maintain		This feature is not protected within existing MPAs	Internationally threatened, BAP and OSPAR species. Listed on Schedule 5 of the Wildlife and Countryside Act
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Maintain		This feature is not protected within existing MPAs	BAP and OSPAR species
European eel <i>Anguilla anguilla</i>	FOCI Mobile Species	✓	✓	N/A	None	Maintain			OSPAR and BAP species - International responsibility and moderate decline in the UK

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	✓ * 9
Appropriate boundary	✓ * 10, 11
Areas of Additional Ecological Importance	✓ * 12
Overlaps with existing MPAs	✓ * 13

Table 104 rRA 09 Belle Tout to Beachy Head Lighthouse (Balanced Seas) (Natural England lead) within rMCZ 13.2. An overview of features proposed for designation within rRA Belle Tout to Beachy Head Lighthouse and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A1.2 Moderate energy intertidal rock	BSH	X * 14	Recover to reference condition
Littoral chalk communities	FOCI Habitat	✓ * 15	Recover to reference condition
Site considerations			
Appropriate boundary	X * 16		

(NOTE: This recommended reference area lists further subtidal features but these are not meant to be included so have been removed.)

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the intertidal BSH Moderate energy intertidal rock and Intertidal coarse sediment however due to the linear nature of the intertidal, they are considered viable through linear length only.
- ² This site does not meet the minimum viability criteria (5km²) for the subtidal BSH Subtidal Sand, Subtidal Mud, Subtidal mixed sediment, and Subtidal chalk and they are considered unviable. However, it should be noted the maximum extent of the subtidal chalk has been captured – the subtidal chalk actually drops off within the MCZ, but reemerges in the Kingmere rMCZ. New data has also shown that the extent of the subtidal chalk within the rMCZ is much greater than originally thought (Pers. Comms. Sussex IFCA).
- ³ These Broad-scale habitats are a result of incorporating the REC dataset from the MALSF. This dataset was defined in newly proposed EUNIS Level 4 habitats which were more detailed than EUNIS Level 3, the level suggested in the ENG at which were used to assess ecological targets. The REC data had to be translated back to the coarser EUNIS Level 3 which has led to these habitats having conservation objectives. It is important to note the RSG has proposed all habitats, in particular those at the finer EUNIS Level 4 scale, for protection.
- ⁴ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included so is considered viable.

- ⁵ Viability for the FOCI habitat Littoral chalk communities relies on a minimum diameter patch size of 1km. At approx 700m wide by 27 km long, this site doesn't quite achieve this diameter patch, though it's clearly more than met in length, so is considered viable. However, the feature does extend beyond the boundary, and Natural England advises that more of this feature could be captured if the seaward boundary was extended, to improve viability and adequacy for the BSH.
- ⁶ The FOCI species *Hippocampus guttulatus* (Long-snouted seahorse) is below the replication target, however the regional project decided to propose sites where records exist, only where there is suitable habitat within the site (this has led to 7 other records of this species not being proposed within the region). Natural England advises that seahorses, which are notoriously difficult to spot, can be found in a variety of unpredictable habitats, and where a sighting is confirmed within a site, inclusion could be considered.
- ⁷ For *Hippocampus guttulatus* it is difficult to confirm stable populations of the seahorse, therefore it is difficult to know whether extending the boundary would or would not capture more populations.
- ⁸ It is thought that there are really only four viable sites for short-snouted seahorse (*Hippocampus hippocampus*), as there is low confidence in the records for Selsey Bill and the Hound. Stakeholders have records of this species in Brighton Marina.
- ⁹ Natural geological features, such as peat exposures and calcite rings, six feet in diameter on the chalk reef, which are a unique feature.
- ¹⁰ The boundary of the rMCZ roughly follows the ENG guidelines as far as it uses a minimum number of straight lines.
- ¹¹ The boundary is constrained by the coastline and extent of the habitat.
- ¹² Large areas of sea squirts (Molgula) beds, and FOCI habitat Ross coral (*Sabellaria spinulosa*), and very unusual claystone reef (South-east features (Browning 2002)) within site. Good foraging area for black-legged kittiwake, common tern and Sandwich terns (Balanced Seas 2011a). *Sabellaria spinulosa* reefs occur within the site but are not considered to be a good example (for protection). Subtidal sands and gravels habitats occur within the site, but they are not a priority for protection. FOCI mobile species undulate rays (*Raja undulata*) are noted to occur in this site but it is not a prime area.
- ¹³ Brighton to Newhaven SSSI, Seaford to Beachy Head SSSI, Seven Sister VMCA.
- **rRA 9:** ¹⁴ The site does not meet the viability criteria (5km²) for the BSH Moderate energy intertidal rock, not even in length. More of this feature could be captured by extending the boundary..
- **rRA 9:** ¹⁵ Viability for the FOCI habitat Littoral chalk communities relies on a minimum diameter patch size of 1km, and this rRA is approx 3km x 250m in width only. However littoral chalk is a coastal feature, naturally linear in nature, so is considered viable.
- **rRA 9:** ¹⁶ It was agreed at the RSG that this reference area should only protect the intertidal features: A1.2 Moderate Energy intertidal rock and Littoral chalk communities. The boundaries of this recommended reference area have been drawn incorrectly, as a consequence subtidal features have been included as features to be protected: Subtidal chalk and Subtidal sands and gravels were not features proposed for the reference area. Natural England feels retaining subtidal features would be of benefit as described in previous comments, but socio-economic impacts may occur.

Suggested amendments:

- ⁵ Viability for the FOCI habitat **Littoral chalk communities relies on a minimum diameter patch size of 1km**. At approx 700m wide by 27 km long, this site doesn't quite achieve this diameter patch, though its clearly more than met in length. so is considered viable. However, the feature does extend beyond the boundary, and **Natural England advises that more of this feature could be captured if the seaward boundary was extended, to improve viability and adequacy for the BSH.**
- **rRA 9:** ¹⁴ The site does not meet the viability criteria (5km²) for the BSH Moderate energy intertidal rock, not even in length. **More of this feature could be captured by extending the boundary.**

Summary of site benefits:

- This site is considered to be one of the best representations of subtidal chalk and littoral chalk in the region (East Sussex County Council 1998, Seven Sisters Voluntary Marine Conservation Area (VCMA) Working Group 1987, Balanced Seas 2011a, Brodie, et al. 2007).
- There is confidence (though low confidence for *H.guttulatus*), that both populations of seahorse occur in this site (Seeley, Lear, et al. 2010a, Seeley, Higgs, et al. 2010b).
- The chalk foreshore reef is associated with notable algal communities that have been identified as an Important Plant Area (Brodie, et al. 2007).
- The rMCZ is within one of the Key Inshore Biodiversity Areas in the Balanced Seas Region recommended as an MCZ by the South-East England Biodiversity Forum (South East England Biodiversity Forum (SEEBF) 2010).
- Sevens Sister was one of the recommendations put forward by the Marine Conservation Society as part of their 'Your Seas Your Voice Campaign (Marine Conservation Society (MCS) 2011).
- There is scientific value in this site because it is well studied with good data (Browning 2002, Seven Sisters Voluntary Marine Conservation Area (VCMA) Working Group 1987, South East England Biodiversity Forum (SEEBF) 2010).
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries.
- Subtidal sediment (includes BSH EUNIS CODES A5.1–A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Subtidal chalk is often bored by bivalve molluscs, such as the common piddock (*Pholas dactylus*) and empty bore holes provide habitat for a range of crevice dwelling animals. In some examples piddock holes have created particularly species rich habitats used by a range of invertebrates, shellfish (crabs), and worm species (Fletcher, et al. 2012).

Implications of the site not being designated:

- One of only two rMCZs in the region recommended for the protection of the seahorse *Hippocampus gutturalatus*.
- If this site does not get designated we would not have one of the best representations of subtidal chalk and littoral chalk in the region protected by an MCZ.

Site name: rMCZ BS 16 Kingmere (Balanced Seas) (Natural England lead)

Table 105 An overview of features proposed for designation within Kingmere and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerati ons at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Subtidal chalk	FOCI Habitat	✓	✓	✓ * 1	None	Recover			BAP habitat
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Maintain			BAP and OSPAR species
A5.4 * 5 Subtidal mixed sediments	BSH	✓	✓	✓ * 5	None	Recover			
Black bream <i>Girella elevata</i>	Non-ENG	N/A	N/A	N/A	None	N/A		Important breeding area and only site in the region proposed for this feature ³	
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 2					
Areas of Additional Ecological Importance				✓ * 3					
Overlaps with existing MPAs				X * 4					

Additional comments:

- ¹ Viability is met (0.5km min diameter) for FOCI habitat Subtidal chalk, but additional subtidal chalk habitat could have been protected at this site. However, RSG comments indicate that the boundary was drawn based on socioeconomic considerations (fishing activity) and that across the regional project area this feature was adequately designated for protection.
- ² The boundary of the rMCZ roughly follows the ENG guidelines as far as it uses a minimum number of straight lines, however if it were extended it could include more subtidal chalk. The boundary was originally set to provide navigational ease/socioeconomic considerations; however in Natural England expert opinion, moving the inner boundary further landward would enhance the ecological benefits of this site.
- ³ Non-ENG feature proposed for designation at this site: Black bream (*Spondyliosoma cantharus*) nesting and spawning sites. ENG features undulate rays, blue mussel beds and Ross worm reefs are also found within the site but not recommended. Natural England advises that the undulate ray is included as a feature of this site as confidence of presence is high, and there is currently only one example has been put forward for recommendation. This area is a Key Inshore Biodiversity area in the Balanced Seas region (South East England Biodiversity Forum (SEEBF) 2010).
- ⁴ Two marine Sites of Nature Conservation Importance (mSNCI) overlap with this site (Kingmere Rocks and Worthing Lumps). These sites have been designated by East and West Sussex County Council with the support of SeaSearch.
- ⁵ These Broad-scale habitats are a result of incorporating the REC dataset from the MALSF. This dataset was defined in newly proposed EUNIS Level 4 habitats which were more detailed than EUNIS Level 3, the level suggested in the ENG at which were used to assess ecological targets. The REC data had to be translated back to the coarser EUNIS Level 3 which has led to this habitat having a conservation objective. It is important to note the RSG did not therefore originally propose these specific habitats for protection but the finer scale EUNIS Level 4 habitats highlighted by the REC data.

Suggested amendments:

- ² The boundary of the rMCZ roughly follows the ENG guidelines as far as it uses a minimum number of straight lines, **however if it were extended it could include more subtidal chalk. The boundary was originally set to provide navigational ease/socioeconomic considerations; however in Natural England expert opinion, moving the inner boundary further landward would enhance the ecological benefits of this site.**
- ³ Non-ENG feature proposed for designation at this site: Black bream (*Spondyliosoma cantharus*) nesting and spawning sites. ENG features undulate rays, blue mussel beds and Ross worm reefs are also found within the site but not recommended. **Natural England advises that the undulate ray is considered for inclusion as a feature of this site as confidence of presence is high, and there is currently only one example has been put forward for recommendation.** This area is a Key Inshore Biodiversity area in the Balanced Seas region (South East England Biodiversity Forum (SEEBF) 2010).

Summary of site benefits:

- This is the only site designated (in the regional project, to be confirmed whether it is also the only site nationally) for the non-ENG feature, black bream (Balanced Seas 2011a). It is possibly the most important breeding site for black bream and the best studied area in the UK for Black bream in the Balanced Seas region and has scientific value as it is well studied (Lythgoe and Lythgoe 1971, Pawson 1995, EMU Ltd 2007a, EMU Ltd 2007b, EMU Ltd 2008a, EMU Ltd 2008b).

- This site contains several excellent examples of rocky habitats and subtidal chalk outcropping reef systems. These rocky outcrops of sandstone and boulders support a wide range of marine life, such as bryozans, coralline algae, sea squirts, sponges and starfish (R. Irving 1996, Williams and Clark 2010).
- This area is a Key Inshore Biodiversity area in the Balanced Seas region (South East England Biodiversity Forum (SEEBF) 2010).
- Two marine Sites of Nature Conservation Importance (mSNCI) overlap with this site (Kingmere Rocks and Worthing Lumps). These sites have been designated by East and West Sussex County Council with the support of SeaSearch.
- This site was specifically recommended by the Sussex Sea Fisheries Committee (now Sussex IFCA) (Sussex IFCA 2010) in order to protect the wider sandstone reef associated with black bream spawning aggregations. All sectors (trawling, potting, set netting, aggregates extraction and angling) have agreed to restrict activities permanently in this site to protect the sandstone reefs.
- Oysters appear to be unexploited in this site (Balanced Seas 2011a).
- Sublittoral rocky reefs account for approximately less than 3% of the total area of sea bed of Sussex (within the 12nm limit); Kingmere Rocks is an example of a sandstone reef area with a rich diverse fauna associated with it (Balanced Seas 2011a).
- Undulate rays are present in the site. Some that have been caught were close to the British record size (Balanced Seas 2011a). Fish species such as Poor cod have been recorded in this site (Williams and Clark 2010).
- Blue mussel beds and Ross worm reefs also occur in this site but they have not been put forward for protection as it was felt that there were better examples in the other rMCZs.
- The submerged landscape of the Paleo Arun transects North to South of the Kingmere rMCZ in the Western part of the site are associated with deep coarse sediment, these include river terrace deposits and channel infill (James, Pearce, et al. 2010, James, Pearce, et al. 2011).
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Subtidal chalk is often bored by bivalve molluscs, such as the common piddock (*Pholas dactylus*) and empty bore holes provide habitat for a range of crevice dwelling animals. In some examples piddock holes have created particularly species rich habitats used by a range of invertebrates, shellfish (crabs), and worm species (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not put forward for designation then there would be no examples of black bream nesting and spawning sites protected within the region.
- We will lose the opportunity to incorporate a well studied site, as described in the site benefits.

Site name: rRA 18 St Catherine’s Point West (Balanced Seas) (Natural England lead) (This rRA is not within an rMCZ).

Table 106 An overview of features proposed for designation within St Catherine’s Point and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative consideration s at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A3.1 High energy infralittoral rock	BSH	✓	✓	X * 1	Not viable	Recover to reference condition		One of only two areas in region containing a range of rock and sediment habitats, spanning infralittoral and circalittoral zones, and entire range of energy levels	
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	X * 1	Not viable	Recover to reference condition			
A3.3 Low energy infralittoral rock	BSH	✓ * 3	✓	X * 1	Not viable	Recover to reference condition	This BSH is currently only reaching the minimum replication target		
A4.1 High energy circalittoral rock	BSH	✓	✓	X * 1	Not viable	Recover to reference condition	Site provides one of only three replicates for this feature		
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	X * 1	Not viable	Recover to reference condition			
A5.4 Subtidal mixed sediments	BSH	✓	✓	X * 1	Not viable	Recover to reference condition			

Subtidal sands and gravels	FOCI Habitat	✓	✓	✓	None	Recover to reference condition			BAP habitat
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				X * 1, 2					
Areas of Additional Ecological Importance				✓ * 4					
Overlaps with existing MPAs				✓ * 5					

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the Subtidal BSH, and is considered unviable for them.
- Although the site does not meet the viability target of a minimum diameter of 5km, the RSG specifically states that this is the only area that could accommodate a site that meets the target and include these habitat, within an existing MPA (or rMCZ). However, extending the boundary to meet the viability target for the BSH would have serious socioeconomic impacts and loss of support for the MCZ project due to the proportion of recommendations on the Isle of Wight. This size does not incorporate a good proportion of the habitats (with high confidence), and has does not have stakeholder support.
- ² Boundary meets minimum number of straight lines guideline; however, the site does not meet the viability requirements for the BSHs and could be extended to achieve that target, thereby protecting more of the features (see comment above though). Also, the boundary excludes the intertidal zone; extending the boundary to include this area would be ecologically beneficial, as this would result in protection of the full range of rocky habitats being achieved (intertidal -> infralittoral -> circalittoral).
- ³ Area of high biodiversity, including large populations of Lusitanian littoral species, kelp forests, subtidal faunal turf communities, and a variety of mobile species (Hartnell 1998 cited in (Natural England 2001)).
- ⁴ Fully overlaps with South Wight Maritime SAC.

Suggested amendments:

- ² Boundary meets minimum number of straight lines guideline; however, the site does not meet the viability requirements for the BSHs and could be extended to achieve that target, thereby protecting more of the features (see comment above though). **Also, the boundary excludes the intertidal zone; extending the boundary to include this area would be ecologically beneficial, as this would result in protection of the full range of rocky habitats being achieved** (intertidal, infralittoral, circalittoral).

Summary of site benefits:

- This site is one of only two areas in the region containing a range of rock and sediment habitats, spanning the infralittoral and circalittoral zones, and entire range of energy levels
- Area of high biodiversity, including large populations of Lusitanian littoral species, kelp forests, subtidal faunal turf communities, and a variety of mobile species (Natural England 2001).
- This area ensures that the guidelines for reference areas are met for several features and is therefore spatially efficient.
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster.
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon.

Implications of the site not being designated:

- The minimum replication target has been met for Low energy infralittoral rock, therefore if this site were not designated that target would not be met for this feature
- If this site were not put forward for designation, High energy circalittoral rock would only meet the minimum replication target
- ⁵The existing SAC provides protection for many of the features but not to reference condition.

Site name: rMCZ 19 Norris to Ryde (rRA 16 Wootton Old Mill Pond, and rRA 17 King’s Quay (Balanced Seas) (Natural England lead)

Table 107 An overview of features proposed for designation within Norris to Ryde and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.3 Subtidal mud	BSH	✓	✓	X * 1	None	<i>Maintain</i>		Considered to be best example of feature in region	
Seagrass beds	FOCI Habitat	✓	✓	✓	None	Recover		Considered to be one of best examples of feature in Solent	BAP and OSPAR habitat
Tentacled lagoon worm <i>Alkmaria romijni</i>	FOCI Species	✓	✓	✓ * 2	None	Maintain		Highest density of feature in region	Listed on Schedule 5 of the Wildlife and Countryside Act
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 3					
Areas of Additional Ecological Importance				✓ * 4					
Overlaps with existing MPAs				✓ * 5					

Table 108 rRA 16 Wootton Old Mill Pond (Balanced Seas) (Natural England lead) within rMCZ 19. An overview of features proposed for designation within recommended reference area Wootton Old Mill Pond and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Tentacled lagoon worm <i>Alkmaria romijni</i>	FOCI Species	✓ * 2	Recover to reference condition
Site considerations			
Appropriate boundary	✓ Constrained by natural boundaries		

Table 109 rRA 17 King’s Quay (Balanced Seas) (Natural England lead) within rMCZ 19. An overview of features proposed for designation within recommended reference area King’s Quay and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature ⁷	Representativity	Viability	Recommended conservation objective
Seagrass beds	FOCI Habitat	X * 6	Recover to reference condition
A2.1 Intertidal coarse sediment	BSH	X * 6	Recover to reference condition
A2.2 Intertidal sand and muddy sand	BSH	X * 6	Recover to reference condition
A2.3 Intertidal mud	BSH	X * 6	Recover to reference condition
A2.4 Intertidal mixed sediments	BSH	X * 6	Recover to reference condition
A5.3 Subtidal mud	BSH	X * 7	Recover to reference condition
Site considerations			
Appropriate boundary	X * 6		

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH and is therefore unviable. However the seaward boundary has been drawn to avoid overlap with the main dredging channel so there is some conservation value in this habitat being included.
- ² The whole distribution of the feature has been included,
- ³ The Boundary does not meet guidelines on minimum number of straight lines but follows the coastal and estuarine borders, and seaward boundary has been drawn to avoid overlap with main dredging channel

- ⁴ This is a regionally important area for Mantis shrimp (believed to be a breeding population), it is a Key Inshore Biodiversity Area within the region, and it is an important foraging area for a number of nationally and internationally important bird species such as black-headed and Mediterranean gulls, common and Sandwich terns (South East England Biodiversity Forum (SEEBF) 2010, EMU Ltd 2010).
- ⁵ Site partially overlaps with Solent Maritime SAC; King's Quay Shore SSSI; Medina Estuary SSSI; Ryde Sands and Wootton Creek SSSI; Solent and Southampton Water SPA and Ramsar site, which protect a variety of intertidal and subtidal sediments including Subtidal macrophyte-dominated sediment
- **rRA 17:** ⁶ The recommended reference area achieves minimum number of straight lines, but is too small to achieve viability for the features. The Southern Inshore Fisheries and Conservation Authority (SIFCA) are currently introducing a voluntary code of conduct to prevent towed gear within the seagrass beds and this includes a buffer area around the site.
- **rRA 17:** ⁷ This feature is listed in Table 6 of the Selection Assessment Document as an additional feature that occurs within the recommended reference area, however it is too small to meet the viability target

Summary of site benefits:

- There is scientific value in this site because it is well studied with good data (Hampshire Wildlife Trust 2006 onwards, EMU Ltd 2010).
- Considered to be best example of subtidal mud in region (Hampshire Wildlife Trust 2006 onwards).
- Considered to be one of best examples of seagrass beds in the Solent (Hampshire Wildlife Trust 2006 onwards).
- rMCZ/rRA contains the highest density of *Alkmaria romijni* in region and the population is considered to be the best example in the UK (Hampshire Wildlife Trust 2006 onwards).
- Seagrass beds are particularly important for the beneficial ecosystem processes: food web dynamics and species diversification, and the beneficial ecosystem services of fisheries (Fletcher, et al. 2012).
- Subtidal mud is important for biogeochemical cycling (Fletcher, et al. 2012).
- The intertidal habitats in the recommended reference area have several beneficial ecosystem processes including primary production, food web dynamics and erosion control (Fletcher, et al. 2012).
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients.

Implications of the site not being designated:

- If this site were not put forward for designation then the best examples of tentacled lagoon worm *Alkmaria romijni* within the region (and nationally) would not be protected.

Site name: rMCZ BS 20 The Needles (and rRA 20 Alum Bay) (Balanced Seas) (Natural England lead)

Table 110 An overview of features proposed for designation within The Needles and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.4 Subtidal mixed sediments	BSH	✓	✓	X * 1	Not viable	Maintain			
Seagrass beds	FOCI Habitat	✓	✓	✓	None	Recover		Considered to be one of best examples of feature around IOW	BAP and OSPAR habitat
Stalked jellyfish <i>Lucernariopsis campanulata</i>	FOCI Species	✓ * 2	✓	✓	Replication target not met	Maintain	Only record of feature within region.	This feature is not protected within existing MPAs	BAP species – marked decline in UK
Peacock’s tail <i>Padina pavonica</i>	FOCI Species	X * 3	X	✓	Replication target not met	Maintain		This population represents the western extreme of the species’ distribution within the region. This feature is not protected within existing MPAs	BAP species

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	✓
Areas of Additional Ecological Importance	✓ * 4, 5
Overlaps with existing MPAs	✓ * 6

Table 111 rRA 20 Alum Bay (Balanced Seas) (Natural England lead) within rMCZ 20. An overview of features proposed for designation within recommended reference area Alum Bay and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Stalked jellyfish <i>Lucernariopsis campanulata</i>	FOCI Species	✓ * 7	Recover to reference condition
Site considerations			
Appropriate boundary	X * 7		

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH. The seaward boundary could be extended to incorporate more of feature and achieve viability; however, stakeholder support may be affected.
- ² Replication of 3 is not met, but this is the only record of species in region, within the rMCZ, so the target is met.
- ³ Natural England agrees with the SAP that, in line with the ENG guideline for spatially separate replicates, *Padina pavonica* is not fully replicated in Balanced Seas (Hill, et al. 2010). Natural England and the SAP disagree with the Regional Stakeholder Group suggestion that the two examples which occur in rMCZ 22 are considered to be ecologically separate and therefore count as two replicates.
- ⁴ Variety of Southeast features occur within rMCZ (species and habitats), the site is an important foraging area for a number of nationally and internationally important bird species such black-headed gulls and great cormorant, and it is a highly biodiverse and productive area (South East England Biodiversity Forum (SEEBF) 2010) (RSPB Pers. Comms Local Group (Feb. 2011))
- ⁵ Undulate Ray stated as breeding within rMCZ, but not proposed for designation, despite ENG guidelines for highly mobile species. We advise this species is considered as an additional proposed feature for designation in this rMCZ. This is also important because there is currently only one pMCZ for this species in the region.
- ⁶ Other BSH and FOCI protected by South Wight Maritime SAC such as intertidal, infralittoral and circalittoral rock
- **rRA 20:** ⁷ Boundary to be defined for this recommended reference area once location of feature is confirmed

Summary of site benefits:

- There is scientific value in this site because it is well studied with good data (for example, (Herbert 2010, Dale, Chesworth and Leggett 2011).
- Considered to be one of the top three examples of seagrass beds around the Isle of Wight (Dale, Chesworth and Leggett 2011).
- Only record of *Lucernariopsis campanulata* within region
- This population of *Padina pavonica* represents the western extreme of the species' distribution within the region, and is one of three populations proposed for designation
- Site has high biodiversity and productivity (Marine Conservation Society (MCS) 2011).
- Seagrass beds are important for beneficial ecosystem processes and services including food web dynamics, species diversification and fisheries (Fletcher, et al. 2012).
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients.

Implications of the site not being designated:

- If this site were not put forward for designation then the regional project would not have protected any examples of *Lucernariopsis campanulata*
- If this site were not put forward for designation then the minimum replication guidelines would not be met for *Padina pavonica*

Site name: rMCZ 22 Bembridge (and rRA 15 Tyne Ledges, rRA 21 Culver Spit) (Balanced Seas) (Natural England lead)

Table 112 An overview of features proposed for designation within Bembridge and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain			
A5.3 Subtidal mud	BSH	✓	✓	✓	None	Recover			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Maintain			
Maerl beds	FOCI Habitat	✓ * 1	✓	✓	None	Recover	This is the only example of this feature in the region.	This feature is not protected within existing MPAs	BAP habitat
Mud habitats in deep water	FOCI Habitat	X * 2	X	✓	Replication target not met	Recover	One of two sites proposed for this feature	This feature is not protected within existing MPAs	BAP habitat
Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	✓	✓	✓	None	Recover		This feature is not protected within existing MPAs	OSPAR habitat
Ross worm <i>Sabellaria spinulosa</i> reef	FOCI Habitat	✓	✓	✓	None	Recover			BAP and OSPAR habitat
Seagrass beds	FOCI Habitat	✓	✓	✓	None	Recover			BAP and OSPAR habitat

Sea-pens and burrowing megafauna	FOCI Habitat	✓ * 3	✓	✓	None	Recover	This FOCI is currently only reaching the minimum replication target (one existing MPA).		OSPAR habitat
Tentacled lagoon worm <i>Alkmaria romijni</i>	FOCI Species	✓	✓	✓	None	Maintain			Listed on Schedule 5 of the Wildlife and Countryside Act
Lagoon sand shrimp <i>Gammarus insensibilis</i>	FOCI Species	✓ * 4	✓	✓ * 5	None	Maintain			BAP species and listed on Schedule 5 of the Wildlife and Countryside Act
Stalked jellyfish <i>Haliclystus auricula</i>	FOCI Species	✓ * 6	✓	✓	None	Maintain	One of two sites proposed for this feature	This feature is not protected within existing MPAs	BAP species – marked decline in the UK
Long-snouted seahorse <i>Hippocampus guttulatus</i>	FOCI Species	X * 7	X	✓	Replication target not met	Maintain	One of two sites proposed for this feature	This feature is not protected within existing MPAs	OSPAR species, BAP species (internationally threatened) and listed on Schedule 5 of the Wildlife and Countryside Act.
Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI Species	✓	✓	✓	None	Maintain		This feature is not protected within existing MPAs	OSPAR species, BAP species (internationally threatened) and listed on Schedule 5 of the Wildlife and Countryside Act.

Starlet sea anemone <i>Nematostella vectensis</i>	FOCI Species	✓	✓	✓	None	Maintain			BAP species and listed on Schedule 5 of the Wildlife and Countryside Act
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Recover		This feature is not protected within existing MPAs	BAP and OSPAR species
Peacock's tail <i>Padina pavonica</i>	FOCI Species	X * 8	X	✓	Replication target has not been met.	Maintain	One of three populations proposed for designation in region	Most important and extensive population in region; thought to seed other populations around the Isle of Wight. This feature is not protected within existing MPAs	BAP species
Sea snail <i>Paludinella littorina</i>	FOCI Species	✓ * 1	✓	✓	None	Maintain	This is the only example of this feature in the region.	This feature is not protected within existing MPAs	Listed on Schedule 5 of the Wildlife and Countryside Act
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 9					
Areas of Additional Ecological Importance				✓ * 10					
Overlaps with existing MPAs				✓ * 11					

Table 113 rRA 15 Tyne Ledges (Balanced Seas, Natural England lead). An overview of features proposed for designation within recommended reference area Tyne Ledges and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Seagrass beds	FOCI Habitat	✓ * ¹²	Recover to reference condition
Peacock's tail <i>Padina pavonica</i>	FOCI Species	✓ * ¹²	Recover to reference condition
A5.2 Subtidal sand	BSH	X * ¹³	Recover to reference condition
Native oyster <i>Ostrea edulis</i>	FOCI Species	X * ¹³	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ¹²		

Table 114 rRA 21 Culver Spit (Balanced Seas) (Natural England lead) within rMCZ 22. An overview of features proposed for designation within recommended reference area Culver Spit and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Maerl beds	FOCI Habitat	✓	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	X	Recover to reference condition
Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI Habitat	X * ¹⁵	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ¹⁶		

Additional comments:

- ¹ These feature (FOCI maerl beds and *Paludinella littorina* (Sea snail)) are below the replication target of three, however these are the only example of the features in the region, so the replication target is considered met.
- ² There are only two replicates for this feature (HOICI 13 Mud habitats in deep water) in region (target is 3-5); RSG state disagreements over the definition of this habitat are the reason for this missed target.
- ³ Minimum replication target is met for Sea-pens and burrowing megafauna.
- ⁴ Four replicates are proposed for the lagoon sea slug sand shrimp (*Gammarus insensibilis*); 1 in an existing MPA, and three in rMCZs. For the latter, two replicates occur within 1 rMCZ, but they were considered to be sufficiently ecologically separated to merit two replicates.

- ⁵ Lagoon sand shrimp *Gammarus insensibilis* meets the viability target, and it is constrained by natural boundaries so the distribution of the feature is enclosed within the rMCZ.
- ⁶ The FOCI species *Halicystus auricula* (Stalked jellyfish) is below the replication target; however the maximum achievable number of replicates has been proposed for designation as it has a limited distribution in the region, so this is considered to meet the replication criteria.
- ⁷ The feature (Long-snouted seahorse *Hippocampus guttulatus*) is below the replication target, however the regional project decided to propose sites where records exist, only where there is suitable habitat within the site (this has led to 7 other records of this species not being proposed within the region as they are low confidence records). Natural England advises that seahorses, which are notoriously difficult to spot, can be found in a variety of unpredictable habitats, and where a sighting is confirmed within a site, inclusion could be considered.
- ⁸ Natural England agrees with the SAP that, in line with the ENG guideline for spatially separate replicates, *Padina pavonica* is not fully replicated in Balanced Seas (Hill, et al. 2010). Natural England and the SAP disagree with the Regional Stakeholder Group suggestion that the two examples which occur in rMCZ 22 are considered to be ecologically separate and therefore count as two replicates.
- ⁹ Boundary generally meets guidelines, however the northern boundary could be extended to include additional records of *Ostrea edulis* and *Sabellaria spinulosa* which fall just outside the current boundary.
- ¹⁰ Highly biodiverse area for benthic, demersal and pelagic invertebrate and vertebrate species, for example, black bream nesting area, and migratory fish species for example, Atlantic salmon, European eel and Twaité Shad are found in the site. Important breeding and foraging area for a number of nationally and internationally important bird species for example, Black-headed gulls, Sandwich terns (Jackson, Langmead, et al. 2009, Balanced Seas 2011a).
- ¹¹ Three-quarters of site overlaps with South Wight Maritime SAC, overlaps with Whitecliff Bay and Bembridge Ledges SSSI, Brading Marshes to St. Helen's Ledges SSSI, Solent and Isle of Wight Lagoons SAC
- It is recommended that the habitat FOCI intertidal underboulder communities be included within this rMCZ (Hampshire and Isle of Wight Wildlife Trust 2011), as data was not supplied to the regional project prior to recommendations.

Additional comments for recommended reference areas:

- **rRA 15:** ¹² Boundary was amended (see Annex 9 of the Amendments Report) and the recommended reference area is now considerably smaller than the original recommended reference area. Although the recommended reference area still meets the viability guidelines for *Padina pavonica* and seagrass beds, the original rRA would have provided far greater protection for these features, including a buffer zone for the seagrass. Natural England advises that the original boundaries of this recommended reference area be reinstated so as to include shallow subtidal seagrass beds and greater distribution of the primary feature, *Padina pavonica*
- **rRA 15:** ¹³ This feature is listed in Table 6 of the Site Assessment Document as an additional feature that occurs within the recommended reference area, however, the amended boundary (see Annex 9 of the Amendments Report) excludes these features.
- **rRA 21:** ¹⁴ There are no known records for this species (and no suitable habitat) within the recommended reference area and so we do not think this feature should be listed for this reference area, unless evidence of the species' presence is/becomes available.

- **rRA 21:** ¹⁵ Boundary is suitable at present, however if planned surveys establish the spatial extent of the feature then the boundary may need to be adjusted to enclose the full distribution of this important feature.
- **rRA 15:** It is recommended that the habitat FOCl intertidal underboulder communities be included within this rMCZ (Dale and Herbert 2011), as data was not supplied to the regional project prior to recommendations.

Suggested amendments:

- ⁹ Boundary generally meets guidelines, **however the northern boundary could be extended to include additional records of *Ostrea edulis* and *Sabellaria spinulosa* which fall just outside the current boundary.**
- **MCZ: It is advised that the habitat FOCl intertidal underboulder communities be considered for inclusion within this rMCZ** (Dale and Herbert 2011), as data was not supplied to the regional project prior to recommendations.
- **rRA 15:** It is recommended that the habitat FOCl intertidal underboulder communities be included within this rMCZ (Dale and Herbert 2011), as data was not supplied to the regional project prior to recommendations.
- **rRA 15:** ¹² Boundary was amended (see Annex 9 of the Amendments Report) and the recommended reference area is now considerably smaller than the original recommended reference area. Although the recommended reference area still meets the viability guidelines for *Padina pavonica* and seagrass beds, the original rRA would have provided far greater protection for these features, including a buffer zone for the seagrass. **Natural England advises that the original boundaries of this recommended reference area be reinstated so as to include shallow subtidal seagrass beds and greater distribution of the primary feature, *Padina pavonica***

Summary of site benefits:

- There is scientific value in this site because it is well studied with good data (Collins, Herbert and Mallinson 1990, Defra n.d., Hampshire and Isle of Wight Wildlife Trust 2011, Natural England 2011b).
- This is the only site in the region which would protect maerl beds (O'Dell, J et al. 2011).
- This is one of only two sites proposed for mud habitats in deep water in region
- This is one of only three sites proposed for sea-pens and burrowing megafauna in region
- This is one of only two sites proposed for *Haliclystus auricula* in region
- This is one of only two sites proposed for Long-nosed seahorse *Hippocampus guttulatus* in region
- Most important and extensive population of *Padina pavonica* in region; thought to seed other populations around the IoW (Herbert 2010). This is one of only three populations proposed for designation in region
- This is the only site in the region which would protect *Paludinella littorina*
- The features can provide beneficial ecosystem processes and services. For example, *Sabellaria spinulosa* reefs are particularly important for formation of species habitat and species diversification, while seagrass beds are important for food web dynamics and species diversification, and the beneficial ecosystem services of fisheries (Fletcher, et al. 2012).

- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals.
- The three dimensional structure of maerl forms structurally complex habitats which provide a wide range of niches for infaunal and epifaunal organisms which increase the habitat complexity further. Commercially important species such as scallops (*Aequipecten* spp., *Pecten* spp.), razor clams (*Ensis* spp.) and clams (*Dosinia* spp., *Tapes* spp.) are typically found in abundance in maerl beds.
- Subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients.

Implications of the site not being designated:

- ⁹If this site were not put forward for designation then the minimum replication guidelines would not be met for *Padina pavonica*
- If this site were not put forward for designation then there would be no examples of maerl beds protected within the region
- If this site were not put forward for designation then there would be no examples of *Paludinella littorina* protected within the region
- If this site were not put forward for designation then the region would be well below the minimum replication target for mud habitats in deep water, *Haliclystus auricula* and Long-nosed seahorse *Hippocampus guttulatus*
If this **site were not put forward for designation** then the minimum replication guidelines would not be met for sea-pens and burrowing megafauna in the region.

Site name: rMCZ 23 Yarmouth to Cowes (and rRA 19 Newtown Harbour) (Balanced Seas) (Natural England lead)

Table 115 An overview of features proposed for designation within Yarmouth to Cowes and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Recover			
A5.1 Subtidal coarse sediment	BSH	✓	✓	X	Viability not met	Maintain	This site has a significant contribution to the adequacy target in inshore sites.		
Estuarine rocky habitats	FOCI Habitat	✓	✓	✓ * 2	None	Maintain	This site is one of four rMCZs for this feature (min. target is 3)	Site includes some of the best examples of this feature in the region	BAP habitat – UK obligation, decline, key species

Intertidal underboulder communities	FOCI Habitat	✓	✓	✓	None	Recover	This site is one of four rMCZs for this feature (min. target is three)		BAP habitat – UK obligation, decline, functional habitat
Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	✓	X	X * 3	Viability not met (though could be) ^{*3}	Maintain		This feature is not protected within existing MPAs.	OSPAR habitat
Peat and clay exposures	FOCI Habitat	✓	✓	✓	None	Recover			BAP habitat – Key species, functional habitat
Ross worm <i>Sabellaria spinulosa</i> reef	FOCI Habitat	✓	✓	✓	None	Recover			BAP and OSPAR habitat
Seagrass beds	FOCI Habitat	✓	✓	✓	None	Recover			BAP and OSPAR habitat
Lagoon sand shrimp <i>Gammarus insensibilis</i>	FOCI Species	✓	✓	✓	None	Maintain	This site is one of four rMCZs for this feature (min. target is three)		BAP species and listed on Schedule 5 of the Wildlife and Countryside Act.
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	X	X * 3	Viability not met (though could be) ^{* 3}	Maintain		This feature is not protected within existing MPAs.	BAP and OSPAR species
Site considerations									
Connectivity				✓ * 4					
Geological/Geomorphological features of interest				Bouldner Cliff * 5					
Appropriate boundary				✓ * 6					
Areas of Additional Ecological Importance				✓ * 7					
Overlaps with existing MPAs				✓ * 8					

Table 116 rRA 19 Newtown Harbour (Balanced Seas) (Natural England lead) within rMCZ 23. An overview of features proposed for designation within rRA Newtown Harbour recommended reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Estuarine rocky habitats	FOCI Habitat	X * 9, 10	Recover to reference condition
Lagoon sand shrimp <i>Gammarus insensibilis</i>	FOCI Species	X * 9, 10	Recover to reference condition
A2.3 Intertidal mud	BSH	X * 9, 11	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	X * 9, 11, 12	Recover to reference condition
Site considerations			
Appropriate boundary	X * 9		

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH Intertidal coarse sediment, Low energy intertidal rock, Moderate energy), however due to the linear nature of the intertidal and coastal feature, they are considered viable through linear length only
- ² The feature does not meet the viability target, but it is constrained by natural boundaries. However, the RSG state that there may be additional data showing that this feature occurs elsewhere in the rMCZ.
- ³ These features have been proposed but with agreement that protection only applies to those within Newtown Harbour which is thought to be a good healthy population though are probably linked to additional areas beyond the harbour (for example, reproduction). Therefore it is Natural England’s expert opinion that they are not distinct therefore do not meet the viability guidelines as they occur throughout the rMCZ. We advise these features are considered for designation throughout the site. However there could be socioeconomic implications.
- ⁴ Connectivity is met in the region, but more specifically the current known distribution of EUNIS L2 A3 (Infralittoral rock) across the region means that it is unlikely that the connectivity target could be met for this BSH.
- ⁵ Bouldner Cliff geological feature
- ⁶ Meets guidelines, but could be extended in the western part of the site to provide a buffer for the seagrass beds
- ⁷ Site contains features such as hard rock reefs and Peacock worm (*Sabella pavanina*), includes two of the Key Inshore Biodiversity Areas in the region, and is an important foraging area for a number of nationally and internationally important bird species such as common, little and Sandwich terns (South East England Biodiversity Forum (SEEBF) 2010). In addition, European eel, smelt and undulate ray are present throughout the site (but are not considered suitable for inclusion as specific features of the site for stakeholder support would be an issue).
- ⁸ Solent Maritime SAC, Newtown Harbour SSSI, Thorness Bay SSSI, Solent to Southampton Water SPA, and the site is adjacent to Yar Estuary SSSI, which protect habitats including Intertidal mud, Intertidal mixed sediments and Salt marsh

Additional comments for rRA:

- **rRA 19:**⁹ The boundaries of this recommended reference area were subject to repeated stakeholder discussions, and the final recommendations are unclear. However, it appears that the boundaries do not include the full distribution of estuarine rocky habitats and lagoon sand shrimps. Further, the boundaries exclude other additional, and yet important, features that could be protected, such as *Ostrea edulis*. The boundary follows the ENG, however, it excludes the lower estuary, and this will potentially weaken the ecological functioning and connectivity of the estuary. There would be more ecological benefit if the lower estuary was included but this may have impact on stakeholder support.
- **rRA 19:**¹⁰ Viability for the FOCI habitat Estuarine rocky habitats and FOCI species Lagoon sand shrimp *Gammarus insensibilis* is dependent on a minimum patch diameter (0.5km) which is not met here. In some cases, viability in estuaries has been considered where this is met in linear length alone, however this site is smaller in linear length, and only some parts of the estuary are included, so it is considered unviable.
- **rRA 19:**¹¹ This site does not meet the minimum viability criteria (5km²) for the BSH Intertidal mud and Subtidal mixed sediments. Some estuary sites have been considered due to their natural geographic boundary, but in this case, the site only protects a small portion of the feature, and is particularly small, and is therefore considered unviable
- **rRA 19:**¹² This feature is listed in table 6 of the Site Assessment Document as an additional feature that occurs within the recommended reference area, however it is too small to meet the viability target
- **rRA 19:** Peat and clay exposures are recorded as being present within the Yar Estuary (Devoy 1987 in (Hazell 2008)), but this information was not available to the RSG. Therefore, the feature within the Yar should be considered for inclusion within the rMCZ.

Suggested amendments:

- Natural England advise that peat and clay exposures should be considered to be added to the features list.
- ⁹ The boundaries of this recommended reference area were subject to repeated stakeholder discussions, and the final recommendations are unclear. However, it appears that the boundaries do not include the full distribution of estuarine rocky habitats and lagoon sand shrimps. Further, the boundaries exclude other additional, and yet important, features that could be protected, such as *Ostrea edulis*. **The boundary follows the ENG, however, it excludes the lower estuary, and this will potentially weaken the ecological functioning and connectivity of the estuary. Natural England advise there would be more ecological benefit if the lower estuary was included but this may have impact on stakeholder support.**

Summary of site benefits:

- Site includes some of the best examples of estuarine rocky habitats in the region (Pers. Comms)
- There is scientific value in this site because it is well studied with good data (Defra n.d., Hampshire Wildlife Trust 2006 onwards, Balanced Seas 2011a).
- The *Sabellaria* reefs enclosed within the rMCZ supports high species diversity (Balanced Seas 2011a).

- The features can provide beneficial ecosystem processes and services. For example, infralittoral rock is important for the beneficial ecosystem process of species diversification and beneficial ecosystem service of fisheries (Fletcher, et al. 2012). Intertidal rock is important for processes including primary and secondary production (Fletcher, et al. 2012). *Sabellaria spinulosa* reefs are particularly important for formation of species habitat and species diversification, while seagrass beds are important for food web dynamics and species diversification, and the beneficial ecosystem services of fisheries (Fletcher, et al. 2012).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients (Fletcher, et al. 2012).
- Underboulder communities are entirely different from those communities present on the tops and sides of boulders. The interstitial spaces form microhabitats greatly add to shoreline biodiversity providing opportunity for education and research. The shade, moisture and sheltered conditions offer habitat to species which would otherwise not survive the harsh conditions. The habitat provides niches for a range of encrusting species, sponges, bryozoans (sea mats), and ascidians (sea squirts); refuge for young shellfish, and predator protection for fish species such as blennies (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site were not put forward for designation then the regional project would only meet the lower replication target for estuarine rocky habitats
- If this site were not put forward for designation then the regional project would only meet the lower replication target for Intertidal underboulder communities
- If this site were not put forward for designation then the regional project would only meet the lower replication target for *Gammarus insensibilis*

Site name: rMCZ BS 24.2 Fareham Creek (Balanced Seas) (Natural England lead)

Table 117 An overview of features proposed for designation within Fareham Creek and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-activity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	✓	✓	✓ * 1	None	Maintain		Example of rMCZ for native oysters that are not commercially harvested* ⁴ . This feature is not protected within existing MPAs	OSPAR habitat
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓ * 1	None	Maintain		Example of rMCZ for native oysters that are not commercially harvested* ⁴ . This feature is not protected within existing MPAs	BAP and OSPAR species
Sheltered muddy gravels	FOCI Habitat	✓	✓	✓ * 1	None	Maintain			BAP habitat

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	✓ * 2
Areas of Additional Ecological Importance	X
Overlaps with existing MPAs	✓ * 3,4

Additional comments:

- ¹ Viability for the FOCI features is dependent on a minimum patch diameter (0.5km), which is met here.
- ² The estuary boundary is naturally constrained, although it could be extended seaward (into Portsmouth Harbour) to capture another seagrass bed though this would need further survey work and is beyond the current bylaw area.
- ³ rMCZ overlaps with Portsmouth Harbour SSSI, SPA and Ramsar which is designated for habitats including seagrass beds (and BSH features)
- ⁴ There is existing protection provided by an IFCA bye-law (prohibiting the use of mobile fishing gear) that should be taken into consideration when deciding whether this site should be designated. This comment also applies to sheltered muddy gravels.

Summary of site benefits:

- Considered to be a good site for protection of a natural, and unharvested, population of native oysters *Ostrea edulis* which are of national and international importance through their inclusion on BAP and OSPAR lists (BRIG 2007).
- Management measures for the features are already in place, through an IFCA bye-law.
- The area is part of one of the Key Inshore Biodiversity Areas in the region (South East England Biodiversity Forum (SEEBF) 2010).
- Oyster beds can provide the following beneficial ecosystem processes and services: food web dynamics, formation of species habitat, water purification (water quality), biogeochemical cycling, erosion control, climate regulation, fisheries, natural hazard protection, and environmental resilience (Fletcher, et al. 2012).
- Sheltered muddy gravels can provide the following beneficial ecosystem processes and services: formation of species habitat, species diversification, food web dynamics, biogeochemical cycling, waste assimilation, climate regulation, fisheries and other wild harvesting, environmental resilience and regulation of pollution.
- Subtidal biogenic reefs play a major role in the global carbon cycle and act as a major store of carbon. These ‘living ‘reefs play an important role in fixing and processing nutrients from the seawater into the benthic environment. Biogenic reefs provide habitat for shellfish and fish which are exploited by the fishing industry, and a range of microhabitats for colonisation by other organisms such as molluscs, echinoderms, and fish. They also have an important role to play in protecting coasts through the reduction of incoming wave energy and improving water quality through water filtration processes

Implications of the site not being designated:

- Management measures to protect the features are provided by an IFCA bye-law. The features may be considered within the review of SSSIs to be added to the existing site citation.

Site name: rMCZ BS 25.1 Pagham Harbour (and rRA 11 Church Norton) (Balanced Seas) (Natural England lead)

Table 118 An overview of features proposed for designation within Pagham Harbour and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Seagrass beds	FOCI Habitat	✓	✓	✓ * 1	None	Maintain			BAP and OSPAR habitat
Defolin's lagoon snail <i>Caecum armoricum</i>	FOCI Species	✓ * 2	✓ * 2	✓ * 1	None	Maintain	This is one of two regional, and three national occurrences of this exceptionally rare feature	This feature is not protected within existing MPAs.	This is one of three national occurrences of this feature. Listed on Schedule 5 of Wildlife and Countryside Act
Lagoon sand shrimp <i>Gammarus insensibilis</i>	FOCI Species	✓ * 3	✓	✓ * 1	None	Maintain	Three out of four replicates are viable so adequacy is just met (at minimum ENG target)		BAP species and listed on Schedule 5 of Wildlife and Countryside Act

European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	Maintain		Important area for key life stages. Not protected by existing designations at RP and biogeographical level.	BAP species - International responsibility and moderate decline in UK.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 4					
Appropriate boundary				✓ * 5					
Areas of Additional Ecological Importance				✓ * 6					
Overlaps with existing MPAs				✓ * 7, 8					

Table 119 rRA 11 Church Norton (Balanced Seas) (Natural England lead) within rMCZ 25.1. An overview of features proposed for designation within recommended reference area Church Norton and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Defolin’s lagoon snail <i>Caecum armoricum</i>	FOCI Species	X * 2, 9	Recover to reference condition
Site considerations			
Appropriate boundary	X * 6, 9		

Additional comments:

- ¹ Viability for the FOCI habitat seagrass beds and FOCI species *Gammarus insensibili*, and *Caecum armoricum* is dependent on a minimum patch size (0.5km, and 1km) which is met at this site. Furthermore, the features are entirely encapsulated within the estuary which is completely included so it is considered viable.
- ² There is only two regional (and three national occurrences) of this exceptionally rare feature (*Caecum armoricum*), and both are included in the draft MPA network in the region so replication is considered to be met. This second site in this region is found at Lydd ranges within the proposed Dungeness RAMSAR site and SAC, so meeting replication relies on these going forward for designation.

- ³ Four replicates are proposed for this feature; 1 in an existing MPA, and three in rMCZs. For the latter, two replicates occur in 1 rMCZ, but they were considered to be sufficiently ecologically separated to merit two replicates.
- ⁴ Geomorphological features of interest are protected under Pagham Harbour SSSI.
- ⁵ Constrained by natural boundaries.
- ⁶ Site supports high benthic species richness and benthic biotope richness (Defra n.d.); provides important wintering grounds for species of waterfowl including important populations of Slavonian Grebe (Environment Agency 2010a); is a breeding area for nationally and internationally important bird species such as common and little tern; grey seals and common seals have been recorded in the harbour; and the site provides nursery areas for a number of fish species including bass, mullet and black bream (Balanced Seas 2011a).
- ⁷ Pagham Harbour SSSI, SPA, Ramsar, Local Nature Reserve: provide existing extensive protection for the intertidal salt marsh and tidal mudflat habitats, and the geologically mobile shingle spit at the harbour mouth.
- ⁸ *Gammarus insensibilis* is not currently protected by the existing SSSI.
- *Caecum armoricum* could potentially be protected under the existing SSSI if this site were not designated.
- **rRA 11:** ⁹ Viability for the FOCl species *Caecum armoricum* is dependent on a minimum patch size (1km) which is not met at this site. Though it should be noted the feature has a very specific ecological niche, and the habitat likely to capture this FOCl is incorporated in the rRA so is still likely to have an ecological benefit.

Suggested amendments:

- **rRA 11:** Viability for the FOCl species *Caecum armoricum* is dependent on a minimum patch size (1km) which is not met at this site. Though it should be noted the **feature also exists in the surrounding rMCZ so could be extended to meet viability guidelines.**

Summary of site benefits:

- This is the only rMCZ for the exceptionally rare *Caecum armoricum* within this region (Pain C; Wilkinson S; et al. 2008) and nationally.
- Management provided by the existing designations and LNR bye-laws is considered to be adequate to achieve the draft conservation objectives for the site (Balanced Seas 2011a).
- Site is an important area for key life stages of the European eel (*Anguilla anguilla*) a BAP species of International responsibility and moderate decline in the UK.
- Site supports high benthic species richness and benthic biotope richness (Defra n.d.); provides important wintering grounds for species of waterfowl including important populations of Slavonian Grebe (Environment Agency 2010a); is a breeding area for nationally and internationally important bird species such as common and little tern; grey seals and common seals have been recorded in the harbour; and the site provides nursery areas for a number of fish species including bass, mullet and black bream (Balanced Seas 2011a).
- Seagrass beds can provide beneficial ecosystem processes and services: they are important for food web dynamics and species diversification, and the beneficial ecosystem services of fisheries (Fletcher, et al. 2012).

- Subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site were not put forward for designation then there would be no MCZs for the rare *Caecum armoricum* and *Gammarus insensibilis*, however *Caecum armoricum* could potentially be protected under the existing SSSI if this site were not designated.

Site name: rMCZ 25.2 Selsey Bill and the Hounds and rRA 12 Mixon Hole (Northern Slope) (Balanced Seas) (Natural England lead)

Table 120 An overview of features proposed for designation within Selsey Bill and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative consideration s at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A3.1 High Energy infralittoral rock	BSH	✓	✓	X * 1	Not viable * 1	Maintain	This site makes the second greatest contribution towards the adequacy target in the region for this feature		
A5.2 Subtidal sand * 2	BSH	✓ * 2	✓	X * 1	Not viable * 1	Maintain			
A5.4 Subtidal mixed sediments * 2	BSH	✓ * 2	✓	X * 1	Not viable * 1	Maintain			
Peat and clay exposures	FOCI Habitat	✓	✓	✓	None	Maintain		One of the most important examples of this feature within the region	BAP habitat – key species, functional habitat

Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI Species	✓ * 3	✓	✓	This feature is not found in or near the rMCZ	Maintain	We have low confidence that this feature occurs in this site; this feature is redundant	This feature is not protected within existing MPAs.	OSPAR species and BAP species – International threat. Listed on Schedule 5 of Wildlife and Countryside Act
Site considerations									
Connectivity				✓ * 4					
Geological/Geomorphological features of interest				Bracklesham Bay GCR * 5					
Appropriate boundary				X * 6,9					
Areas of Additional Ecological Importance				✓ * 7					
Overlaps with existing MPAs				✓ * 8					

Table 121 rRA 12 Mixon Hole (Northern Slope) (Balanced Seas) (Natural England lead) within rMCZ 25.2. An overview of features proposed for designation within Mixon Hole (Northern Slope) and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Peat and clay exposures	FOCI Habitat	X * 10	Recover to reference condition
A5.4 Subtidal mixed sediment	BSH	X * 11	Recover to reference condition
Site considerations			
Appropriate boundary	X * 10		

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH High Energy infralittoral rock, Subtidal sand and Subtidal mixed sediments. Some coastal sites have been considered due to their natural geographic boundary, but in this case, the site only protects a portion of the features and is therefore considered unviable. However, although extending the boundary to incorporate more BSH is possible, the primarily reason for designation is the unique outcropping limestone and clay exposures which have been shown to contain high biodiversity. The boundary of the rMCZ was designed to incorporate the full extent of this habitat and it is of conservation benefit. Increasing the site for the Broad scale habitats is not necessary to fulfil ENG requirements and would cause significant stakeholder concern.

- ² These habitats are a result of incorporating the REC dataset from the MALSF. This dataset was defined in newly proposed EUNIS Level 4 habitats which were more detailed than EUNIS Level 3, the level suggested in the ENG at which were used to assess ecological targets. The REC data had to be translated back to the coarser EUNIS Level 3 which has led to these habitats having conservation objectives. It is important to note the RSG has proposed all habitats, in particular those at the finer EUNIS Level 4 scale, for protection.
- ³ The FOCI species *Hippocampus hippocampus* was proposed to help achieve the replication target across the region, although replication is not at the minimum and would be met without this site. It is in NE's expert opinion, that confidence in the presence of the seahorse in the rMCZ is very low, as there is no supporting data to confirm presence within the rMCZ. The only record of the species was from the lighthouse, which is at least 200m outside the rMCZ boundary. Although it is possible that they are present as there are a few areas of potentially supporting habitat, further surveys are needed to clarify this, and preferably further dedicated seahorse survey to confirm presence, as seahorses are very difficult to spot during general survey work and are easily missed.
- ⁴ Although connectivity is met for the rMCZ regional network, the current known distribution of EUNIS L2 A3 (Infralittoral rock) across the region means that it is unlikely that the connectivity target could be specifically met for this BSH.
- ⁵ Current known distribution of EUNIS L2 A3 (Infralittoral rock) across the region means that it is unlikely that the connectivity target could be met for this BSH.
- ⁵ Geological features of interest protected under SSSI; unprotected subtidal extension of feature is proposed for designation.
- ⁶ Does not follow ENG guidelines regarding minimum number of straight lines.
- ⁷ Crucial foraging area for common tern, Sandwich tern and little tern, and breeding birds in the area. Two of the SNCIs are important haul-out sites for seals. Important south-east features such as rock reefs and Ross coral occur within the rMCZ
- ⁸ This MCZ overlaps with Bracklesham Bay SSSI, and 5 marine Sites of Nature Conservation Interest (SNCI: non statutory designations, uniquely allocated to marine features by West and East County Councils)
- ⁹ Natural England suggest that the western landward boundary is moved 100 - 150m seaward, and north western boundary southwards so it falls beyond the managed realignment scheme, and excludes two other flood defence schemes (a break water and shingle beach). The managed realignment and break water, which already have planning permission, have important economic implications for the region, and will work to protect Europe's largest holiday park. The benefit of moving the boundary would be to increase public support in the remaining rMCZ, but also to exclude a small area of the feature which will most likely be impacted by the consented schemes allowing for the majority of the feature to be protected in the future, and without any implication on the ENG targets. This would also exclude the area of intertidal shingle which is not a feature of the MCZ, but also necessary for flood defence. Removal of this area from within the MCZ boundary will again add to stakeholder support for the site.
- **rRA 12:** ¹⁰ Viability for the FOCI habitat Peat and Clay features is dependent on a minimum patch diameter (0.5 km²), which is not quite met at this site (approx 150 x 800m). However it is considered viable, as the overall area is likely to be similar to the advised amount, and the feature is unique and occurs on a vertical wall. The current boundary is defined by the extent of this wall, which will provide adequate protection for this regionally important example of this feature, and be of ecological benefit. Increasing the site to improve viability would be of no further ecological benefit.
- **rRA 12:** ¹¹ This site does not meet the minimum viability criteria (5km²) for the BSH Subtidal mixed sediment. The feature is listed in Table 6 of the Selection Assessment Document as an additional feature that occurs within the rRA, initially designated for the peat and clay exposure.

Suggested amendments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH High energy infralittoral rock, Subtidal sand and Subtidal mixed sediments. Some coastal sites have been considered due to their natural geographic boundary, but in this case, the site only protects a portion of the features and is therefore considered unviable. **The boundary could be extended potentially to protect more of the feature to meet the viability target, although this might result in loss of stakeholder support.**
- ³ The FOCI species *Hippocampus hippocampus* feature was proposed to help achieve the replication target across the region, despite there being no supporting data within the rMCZ. The only record of the species was from the lighthouse, which is at least 200m outside the rMCZ boundary. It is in Natural England's expert opinion that the habitat within the rMCZ is less likely to support seahorses, **therefore advises the feature to be removed from the sites, or for specific survey work to be undertaken to establish presence**
- ⁹ **Natural England suggest that the western landward boundary is moved 100 - 150m seaward, and north western boundary southwards so it falls beyond the managed realignment scheme, and excludes two other flood defence schemes (a break water and shingle beach).** The managed realignment and break water, which already have planning permission, have important economic implications for the region, and will work to protect Europe's largest holiday park. The benefit of moving the boundary would be to increase public support in the remaining rMCZ, but also to exclude a small area of the feature which will most likely be impacted by the consented schemes allowing for the majority of the feature to be protected in the future, and without any implication on the ENG targets. This would also exclude the area of intertidal shingle which is not a feature of the MCZ, but also necessary for flood defence. Removal of this area from within the MCZ boundary will again add to stakeholder support for the site.

Summary of site benefits:

- One of the most important examples of peat and clay exposures within the Balanced Seas region (Balanced Seas 2011a). This feature is found on the clay cliff face which extends 30m down and supports an array of flora and fauna. Due to the location of this peat and clay feature there are very few activities which overlap with it and therefore the feature is in one of the best natural states in the region (Balanced Seas 2011c).
- Crucial foraging area for common tern, Sandwich tern and little tern, and breeding birds in the area (Balanced Seas 2011a). Two of the SNCIs are important haul-out sites for seals. Important south-east features such as rock reefs and Ross coral occur within the rMCZ (Balanced Seas 2011a).
- The key features of this site are the unusual outcrops of limestone and clay exposures. The reef is considered important as sublittoral rocky reefs account for less than 3% of the total Sussex sea beds (within 12nm) and exposed limestone strata are also rare, being mostly sandstone or chalk (R. Irving 1996).
- Mixon hole is recognised as an Important Plant Area for its unusual algal communities (Brodie, et al. 2007).
- Mixon hole site was one of the recommendations put forward by the Marine Conservation Society as part of their 'Your Seas Your Voice' Campaign (Marine Conservation Society (MCS) 2011).
- Mixon hole is thought to be a segment of an ancient river gorge swept clear by tidal current; the Hole contains Roman remains of worked stone in the form of large cuboidal blocks and spherical catapult balls (R. Irving 1996).

- Ledges, crevices and fissures of clay in the Mixon hole are covered by foliose red algae, bored by piddocks *Pholas dactylus* and inhabited by crustaceans such as squat lobsters, edible crab, etc and fish species such as Tompot Blennies and leopard-spotted gobies. This site is well known for its high biodiversity created by the unusual seabed topography and indicated by the benthic biotope richness data (Jackson, Langmead, et al. 2009, Defra n.d., R. Irving 1996).
- ⁶The geological feature, Bracklesham Bay is incorporated into the site boundaries where the Earnley Clay Formation exposes Eocene fossils along the beach. 'Gallo-Belgique' archaeology is present in this area (Brooks, et al. 2009).
- One of the Key Inshore Biodiversity Areas in the Balanced Seas Region (South East England Biodiversity Forum (SEEBF) 2010).
- There is scientific value in this site because it is well studied with good data (Jackson, Langmead, et al. 2009, Seeley, Higgs, et al. 2010b, Seeley, Lear, et al. 2010a, R. Irving 1996).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon.
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals.

Implications of the site not being designated:

- If this site were not put forward for designation then the best example of peat and clay exposures within the region would not be protected.

Site name: rRA FS 05 South-East of Portland Bill (Finding Sanctuary) (Natural England lead)

Table 122 An overview of features proposed for designation within South-East of Portland Bill recommended reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.1 High energy circalittoral rock	BSH	✓	✓	X * 1	None	Recover to reference condition			
Blue mussel <i>Mytilus edulis</i> beds	FOCI habitat	✓ * 2	X	X * 3	None	Recover to reference condition	This FOCI is currently only reaching the minimum replication target		
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				X * 4					
Areas of Additional Ecological Importance				✓ * 5					
Overlaps with existing MPAs				✓ * 6					

Additional comments:

- ¹ The BSH High energy circalittoral rock does not meet viability but the site is primarily proposed for the FOCI habitat Blue mussel beds, for which viability is not met either.
- ² This site contains one of three replicates of the FOCI habitat, blue mussel beds (*Mytilus edulis*), in the south-west region MPA network. However, please note that the recommended reference area is an area within one of the other three replicates in the Studland to Portland pSAC.

- ³ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is not included, so is not considered viable. However, it should be noted that the whole bed is partly protected by the Studland to Portland possible Special Area of Conservation (pSAC), and is unique in its size, therefore protecting a proportion to recovery status would be of benefit to this very large mussel bed.
- ⁴ The location of the recommended reference area is being reviewed due to queries regarding changes to the location in the final recommendations.

Summary of site benefits:

- ⁶ The recommended reference area is located within the Studland to Portland pSAC, and although the sites share the same interest features, the recommended reference area will provide a higher level of protection over a proportion of the feature where extractive activities are currently taking place.
- The site has been the subject of a significant amount of survey work due to the C-Scope marine planning pilot and sea mapping exercise, Dorset Integrated Seabed study (DORIS), as well as the pSAC designation and subsequent appropriate assessment by the Southern IFCA.
- Dog whelks *Nucella lapillus*, are found in this location that are twice the size of the usual intertidal specimens (Lieberknecht, Hooper, et al. 2011).
- Subtidal biogenic reefs such as blue mussel beds play a major role in the global carbon cycle and act as a major store of carbon. These 'living' reefs play an important role in fixing and processing nutrients from the seawater into the benthic environment. Biogenic reefs provide habitat for shellfish and fish which are exploited by the fishing industry and a range of microhabitats for colonisation by other organisms such as molluscs, echinoderms, and fish. They also have an important role to play in protecting coasts through the reduction of incoming wave energy and improving water quality through water filtration processes (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not taken forward for designation then the FOCI habitat, Blue mussel beds, will only have one replicate within the south-west MPA network.

Site name: rRA FS 06 The Fleet (Finding Sanctuary) (Natural England lead)

Table 123 An overview of features proposed for designation within The Fleet reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Recover			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Recover			
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	✓	✓ * 1	None	Recover			
A2.6 Intertidal sediments dominated by aquatic angiosperms * 2	BSH	✓	✓	✓ * 1	None	Recover			
A5.1 Subtidal coarse sediment * 4	BSH	✓	✓*3	✓ * 1, 4	None	Recover	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	

Seagrass beds	FOCI habitat	✓	✓	✓	None	Recover		Many records of this FOCI habitat within this rRA. This feature has limited distribution.	
Lagoon sea slug <i>Tenellia adpersa</i>	FOCI Species	✓ * 5	✓	✓ * 6	None	Recover	Only site proposed for this feature within the region. This feature has very limited distribution.	Only site proposed for this feature within the region. This feature has very limited distribution.	This feature has very limited distribution in the whole MCZ project area.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 7					
Appropriate boundary				✓ * 8					
Areas of Additional Ecological Importance				None					
Overlaps with existing MPAs				✓ * 9					

Additional comments:

- ¹ Due to the linear nature of the saline lagoon, and the fact that the length of the recommended reference area includes at least 5km of the lagoon, it is considered to meet the minimum viable size for the broad scale habitats.
- ² The BSH Intertidal sediments dominated by aquatic angiosperms is primarily intertidal seagrass beds, which overlap with the FOCI habitat seagrass beds, which also includes subtidal seagrass beds in the Fleet.
- ³ Subtidal coarse sediment is currently just above the minimum adequacy target for total area within the Finding Sanctuary project MPA network.
- ⁴ However the classification of the FOCI habitat subtidal coarse sediment in this location is questionable. The Fleet is characterised subtidally by muddy sediment habitats, and a majority of this is covered with seagrass beds. As such the FOCI habitat is more akin to subtidal macrophyte-dominated sediment (includes seagrass and other algae), and ideally this should replace the FOCI habitat Subtidal coarse sediment.
- ⁵ The FOCI species lagoon sea slug (*Tenellia adpersa*) only has one replicate in the FS project area, as it has a very limited distribution. The Fleet is the only known location for it in the Finding Sanctuary regional project area (Lieberknecht, et al. 2011), and there are very few records for this species in England (13 on the National Biodiversity Network (NBN) gateway). Therefore the replication target is met.

- ⁶ The ENG states that the FOCI species lagoon sea slug (*Tenellia adspersa*) is found in saline lagoons, and viability is dependent on the whole lagoon being included. In this location the whole lagoon is not included, but it is uniquely large in size with a significant amount included, and the remaining area is protected in existing designations so the lagoon is protected in its entirety to support the feature. Furthermore, all records of *Tenellia adspersa* are within the current recommended reference area boundary so it is considered viable (Seaward 1978).
- ⁷ The recommended reference area includes a large proportion of The Fleet lagoon, which is a rare example of a saline lagoon and is part of the Jurassic Coast world heritage site.
- ⁸ Moving the boundary to incorporate the entire lagoon would improve viability for the FOCI species *Tenellia adspersa*, however there would be considerable stakeholder resistance due to this due to potential socio-economic impacts on the Fleet Swannery at the western end, and other varied activities at the eastern end.
- ⁹ This recommended reference area overlaps with the Chesil Beach and The Fleet SPA, Ramsar, SAC, and SSSI (includes the subtidal areas).
- Lagoonal FOCI species are incorrectly listed in FS SAD (Lieberknecht, et al. 2011) Table II.3.19e for Chesil Beach and Stennis Ledges rMCZ which is seaward of Chesil Beach (and lies adjacent to The Fleet recommended reference area). This is a result of mapping errors with the point records causing them to incorrectly lie outside of the site. The species should therefore be listed within this recommended reference area (not the Chesil Beach and Stennis Ledges rMCZ) and should be added to the FOCI list, they include: *Caecum armoricum*, *Gammarus insensibilis*, *Nematostella vectensis* and *Paludinella littorina*.
- To note *Caecum armoricum* is protected by the SAC designation and Wildlife and Countryside Act (WCA) 1981, *Nematostella vectensis* is protected by the SSSI designation and WCA 1981, and is a BAP species. *Gammarus insensibilis* is protected by the WCA 1981 and is a BAP species. *Paludinella littorina* is protected under the WCA 1981. *G. insensibilis* and *P. armoricum* are protected under the SAC and SSSI designations by virtue of their habitats being protected.
- Recent survey work for *Caecum armoricum* has been carried out in the Fleet (Baldock and Bass 2011) showing this species occurs in large numbers and at high densities within the Fleet, associated with the saline seepages.

Suggested amendments

- ⁴ However the classification of the FOCI habitat subtidal coarse sediment in this location is questionable. The Fleet is characterised subtidally by muddy sediment habitats, and a majority of this is covered with seagrass beds. **As such the FOCI habitat is more akin to subtidal macrophyte-dominated sediment (includes seagrass and other algae), and ideally this should replace the FOCI habitat Subtidal coarse sediment.**
- Lagoonal FOCI species are incorrectly listed in (Lieberknecht, et al. 2011) Table II.3.19e for Chesil Beach and Stennis Ledges rMCZ which is seaward of Chesil Beach (and lies adjacent to The Fleet recommended reference area). This is a result of mapping errors causing boundaries to lie incorrectly and overlap. Natural England advises that **the species should therefore be considered for listing within this recommended reference area (not the Chesil Beach and Stennis Ledges rMCZ) and should be added to the FOCI list, they include: *Caecum armoricum*, *Gammarus insensibilis*, *Nematostella vectensis* and *Paludinella littorina*.**

Summary of site benefits:

- This is a unique site as it is the largest saline / brackish lagoon in England (Lieberknecht, et al. 2011).
- There is scientific value in this site because significant amounts of research have been carried out in the Fleet due to the numerous designations.
- Only a small proportion (<1%) of BSHs subtidal coarse sediment and subtidal sand are currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of these features in this region.
- *Caecum armoricum* has a limited distribution within the SW project area and is found in large numbers at high densities within The Fleet (Baldock and Bass 2011).
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish which support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species including cuttlefish which use eelgrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients (Fletcher, et al. 2012).

Implications of the site not being designated:

- This is the only proposed site with the only known location for *Tenellia adspersa* within the FS project area. A well studied, unique, and irreplaceable habitat would not be protected to reference condition.

Site name: rRA FS 07 Lyme Bay (Finding Sanctuary) (Natural England lead)

Table 124 An overview of features proposed for designation within Lyme Bay recommended reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-activity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A3.1 High energy infralittoral rock	BSH	✓	✓	X * 9	ENG viability not met. Site less than 5km diameter.	Recover to Reference Condition			
A5.4 Subtidal mixed sediments	BSH	✓	✓	X * 9	ENG viability not met. Site less than 5km diameter.	Recover to Reference Condition			
A2.1 Intertidal coarse sediment	BSH	✓	✓	X * 9	ENG viability not met. Site less than 5km diameter.	Recover to Reference Condition			
Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	✓	✓	✓ * 1	None	Recover to Reference Condition			BAP

Stalked jellyfish <i>Haliclystus auricula</i>	FOCI Species	✓	✓	✓ * 2	None	Recover to Reference Condition		Feature is not protected within existing MPAs in the FS area.	BAP
Peacock's tail <i>Padina pavonica</i>	FOCI Species	✓ <input type="checkbox"/> *3	✓	✓ * 4	None	Recover to Reference Condition	This feature only has the minimum amount of replicates.	Feature is not protected within existing MPAs in the FS area.	
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 5					
Appropriate boundary				✓ <input type="checkbox"/> * 6					
Areas of Additional Ecological Importance				✓ * 7					
Overlaps with existing MPAs				✓ * 5, 8					

Additional comments:

- ¹ Viability of *Sabellaria alveolata* reefs requires a minimum patch diameter of 500m. A 500m area encompassing the record is possible within the rMCZ. However, it is unclear whether the habitat available can support this feature.
- ² Viability of *Haliclystus auricula* requires a minimum patch diameter of 500m. A 500m area encompassing the record is possible within the rMCZ. However, it is unclear whether the habitat available can support this feature.
- ³ This feature only has the minimum amount of replicates.
- ⁴ Viability of *Padina pavonica* requires a minimum patch diameter of 500m. A 500m area encompassing the record is possible within the rMCZ. However, it is unclear whether the habitat available can support this feature. If this site is not designated the replication target will not be met for *Padina pavonica*.
- ⁵ The site is located adjacent to the Undercliffs at Lyme Regis, an area of historic coastal landslides that has been protected within a coastal (terrestrial) SAC. The intertidal area of the recommended reference area is also designated as a Geological Conservation Review (GCR) site for its geology interest.
- ⁶ The SAP assessment of the MCZ Regional Projects Final Recommendations (Science Advisory Panel 2011b, Science Advisory Panel 2011a) comments that this site may be missing the opportunity to include a range of unspecified additional features (Science Advisory Panel 2011b, Science Advisory Panel 2011a) as it is in an area of extensive shoreline, but the boundary is very small and means that the site does not meet viability guidelines.

- ⁸ The Lyme Bay recommended reference area is located within the boundary of the Lyme Bay and Torbay cSAC which is designated for subtidal reefs habitats.
- ⁹ The intertidal BSH do not reach the minimum viability criteria (5km). In some cases, viability in the intertidal has been considered where this is met in linear length alone; however this site is smaller in linear length, so is considered unviable.

Summary of site benefits:

- Inclusion of this site makes a valuable contribution to meeting the replication target for *Padina pavonica* in the FS area.
- This site aims to protect *Haliclystus auricula* and *Padina pavonica* which are not protected elsewhere in the existing MPA network in the FS area.
- This site is regularly used in the MarClim surveys which specifically focus on species indicators of climate change and therefore has high scientific value.
- ⁷ Due to the fact that this recommended reference area is encompassed within the Lyme Bay and Torbay cSAC it has an increased likelihood of achieving its conservation objectives of recovering to reference condition.

Implications of the site not being designated:

- If this site is not designated the replication target will not be met for *Padina pavonica*.

Site name: rMCZ FS 14 Poole Rocks (Finding Sanctuary) (Natural England lead)

Table 125 An overview of features proposed for designation within Poole Rocks and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative consideration s at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.4 Subtidal mixed sediments	BSH	✓	✓	X * 1	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	X * 1	None	Maintain			
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	X * 1	None	Maintain			
Couch's goby <i>Gobius couchi</i>	FOCI species	✓ * 2	✓	✓	None	Maintain	There are only two sites proposed for this species in the regional project.	This species is very rare and this is the only one of two sites put forward for designation.	Outside of the Finding Sanctuary area, no site has been proposed for this feature.
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Maintain			

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	✓ * ³
Appropriate boundary	✓ * ⁴
Areas of Additional Ecological Importance	✓
Overlaps with existing MPAs	None

Additional comments:

- ¹ BSH Subtidal mixed sediments has not met the ENG viability target, this is due to the site being situated over the Poole Rocks feature which is only 3.7KM².
- ² FOCI species *Gobius couchi* does not meet replication as there are only two examples within region. However, this feature is very rare and so is unlikely to be present in any other areas within region, so the target is met.
- ³ This site is an area of rocky outcrops within the mainly sediment-dominated area of Poole Bay. (SAD in (Lieberknecht, et al. 2011))
- ⁴ The boundary is appropriate for the protection of the Poole Rocks feature and the protection of the *Gobius couchi*, however, it is a small rMCZ that does not meet the ENG guidelines for viability and would benefit from extension. This rMCZ originally formed part of a wider MCZ building block joined up with Studland Bay, and was reduced to meet stakeholder concerns. However, it could be extended to meet viability, with further consultation.

Suggested amendments:

- ⁴ The boundary is appropriate for the protection of the Poole Rocks feature and the protection of the *Gobius couchi*, however, it is a small rMCZ **that does not meet the ENG guidelines for viability and would benefit from extension. This rMCZ originally formed part of a wider MCZ building block joined up with Studland Bay, and was reduced to meet stakeholder concerns. However, it could be extended to meet viability, with further consultation.**

Summary of site benefits:

- This site is important for the rare FOCI species *Gobius couchi*, which has only ever been recorded in 4 locations around the UK. This site is one of only two within the region that lists this feature.
- This site is an area of rocky outcrops within the mainly sediment-dominated area of Poole Bay. (SAD in (Lieberknecht, et al. 2011))
- Stakeholder support for this site is high (SAD in (Lieberknecht, et al. 2011)).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).

- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012)..

Implications of the site not being designated:

- If this site was not taken forward, there would only be one replication for the FOCl species for *Gobius couchi*. The number of sites proposed is already under the ENG target due to the rarity of the species.
- This site is an important contribution to the connectivity of the both the Finding Sanctuary and the Balanced Seas regional project areas, as it is the most easterly in the FS area.

Site name: rMCZ FS 15 Studland Bay (Finding Sanctuary) (Natural England lead)

Table 126 An overview of features proposed for designation within Studland Bay and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓ * 2	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	✓ * 2	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 2	None	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 5	✓ * 2	None	Maintain			
Seagrass beds	FOCI Habitat	✓	✓	✓	None	Recover		This habitat is important for the supported species.	
Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI Species	✓ * 1	✓	✓	None	Recover	This FOCI is currently only reaching the minimum replication target	Only minimum number of replicates met. One of three sites in the region.	
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Maintain			

Undulate ray <i>Raja undulata</i>	FOCI Mobile species	X * 3	X * 3	N/A	Minimum target for replicates not met.	Recover	Only site proposed for this feature within the region.	Only site proposed for this feature within the region.	Only three sites designated for this in entire network.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 4					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ The FOCI species (*Hippocampus hippocampus*), has only met the minimum replication target.
- ² Although this site does not meet ENG guidelines for viability, the entire seagrass bed is within the rMCZ boundary. The boundary has been reduced to accommodate the feature and allow activities to continue outside the rMCZ.
- ³ This is the only example of the FOCI species *Raja undulata* in the Finding Sanctuary regional project put forward for designation and so does not meet the minimum ENG target of 3-5 minimum, therefore adequacy is not met either.
- ⁴ Published data (Garrick-Maidment, et al. 2010), and other strong anecdotal evidence show that a second species of seahorse *Hippocampus guttulatus* is predominantly present in Studland Bay, although it is not listed as a FOCI species for this site. Long-term research by the Seahorse Trust has highlighted Studland Bay as the only known site for breeding of *Hippocampus guttulatus* (SAD in (Lieberknecht, et al. 2011)) in the UK. To note, this long term research project is the only one of its kind in the UK. Natural England **advises** Defra to consider including this species on the listing for this site.
- ⁵ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats (Lieberknecht *et al.* (2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.

Suggested amendments:

- ⁴ Published data (Garrick-Maidment, et al. 2010), and other strong anecdotal evidence show that a second species of seahorse *Hippocampus guttulatus* is predominantly present in Studland Bay, although it is not listed as FOCI species for this site. Long-term research by the Seahorse Trust has highlighted Studland Bay as the only known site for breeding of *Hippocampus guttulatus* (SAD in (Lieberknecht, et al. 2011)) in the UK. To note, this long term research project is the only one of its kind in the UK. **Natural England advises consideration of including this species on the listing for this site.**
- ⁵ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats (Lieberknecht *et al.* (2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- Anecdotal information from Project Seahorse suggests that Southern UK is the most northern tip in the range of both species of seahorses found in the UK (*Hippocampus guttulatus* and *Hippocampus hippocampus*).
- Although *Hippocampus guttulatus* is not listed as a FOCI at this site as the regional project did not assess this information to include it, there are only two other rMCZs where it is identified so adding them as a FOCI to this site would bring the regional replication up to the minimum.
- The Seahorse Trust have collected large amounts of anecdotal data on the presence of *H. guttulatus* and to a lesser amount *H. hippocampus* in Studland Bay as well as evidence showing the site is an important breeding site.
- Studland Bay is an important area of seagrass for Dorset. It is one of two significantly large beds in Dorset and the only large bed in the east of Dorset, supporting a rich combination of marine biota not found in other habitats.
- Anecdotal evidence to suggest there is natural gas seepages within the southern end of Studland Bay, a potential point of interest within the Bay. (pers comms.)
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species including cuttlefish which use eelgrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients (Fletcher, et al. 2012).
- The seagrass habitat supports a wide range of birds such as the black-necked grebe.

Implications of the site not being designated:

- If this site is not designated the minimum number of sites for *Hippocampus hippocampus* will not be met within the region.

- *Hippocampus guttulatus* is also found at this site (there is more evidence for this species than *H. hippocampus*) and although not listed as a feature, if this site was not designated then this species would be at risk. There are currently only two other sites within the regional project proposed for this feature and so this site is important for helping with replication and connectivity.
- In addition undulate ray would not have any site within the regional project proposed. This site is one of only three sites in the whole of England that is proposed.

Site name: rMCZ FS 16 South Dorset (and rRA 04 South Dorset) (Finding Sanctuary) (Natural England lead)

Table 127 An overview of features proposed for designation within South Dorset and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.1 High energy circalittoral rock	BSH	✓	✓	✓	None	Recover			
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Recover			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
A5.4 Subtidal mixed sediment	BSH	✓	✓ * 1	✓	None	Maintain	Site needed to meet minimum adequacy within the regional MCZ project.		
Subtidal chalk	FOCI Habitat	✓ * 2	✓	✓ * 3	None	Recover	This is the only example of subtidal chalk within the regional project.		UK List of Priority Species and Habitats

Site considerations	
Connectivity	✓ * 4
Geological/Geomorphological features of interest	None
Appropriate boundary	✓
Areas of Additional Ecological Importance	None
Overlaps with existing MPAs	None

Table 128 rRA 04 South Dorset (Finding Sanctuary) (Natural England lead), lies within rMCZ 16. An overview of features proposed for designation within the South Dorset recommended reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A4.1 High energy circalittoral rock	BSH	✓	Recover to reference condition
A4.2 Moderate energy circalittoral rock	BSH	✓	Recover to reference condition
A5.4 Subtidal mixed sediment	BSH	✓	Recover to reference condition
Subtidal chalk	FOCI Habitat	✓ * 3	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ¹ This site is needed to meet the lower level target for subtidal mixed sediment within the regional MCZ project.
- ² This is the only example of subtidal chalk within the regional project, however this feature is very limited in the region and so cannot have more replicates, so the target is met.
- ³ No area data for subtidal chalk, only point data (four separate points in a line) so, viability assessment based on ENG minimum viable patch diameter measured from centre of point record, as no information on feature extent available.
- ⁴ This site is important in providing connectivity between the Finding Sanctuary and the Balanced Seas regional projects, particularly with regards to the subtidal chalk habitat.

Summary of site benefits:

- This is the only example of subtidal chalk within the regional project (SAD in (Lieberknecht, et al. 2011)). Only one further example is listed in existing MPAs within the Finding Sanctuary region. Subtidal chalk is listed on the UK List of Priority Species and Habitats (BRIG (ed. Ant Maddock) 2008).
- Provides second largest quantity of subtidal mixed sediments in the Finding Sanctuary region.
- This site is important in providing connectivity between the Finding Sanctuary and the Balanced Seas regional projects, particularly with regards to the subtidal chalk habitat.
- Only a small proportion (<1%) of BSHs subtidal coarse sediment and subtidal sand are currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of these features in this region.
- Anecdotal evidence to suggest this area is important as a wintering ground for both species of seahorses, especially *Hippocampus hippocampus*. (SAD in (Lieberknecht, et al. 2011))
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals.
- Offshore, sand and gravel habitats support internationally important fish and shellfish fisheries. This habitat is an important area for crab and echinoderms (for example, starfish and brittlestars).
- Subtidal chalk is often bored by bivalve molluscs, such as the common paddock (*Pholas dactylus*) and empty bore holes provide habitat for a range of crevice dwelling animals. In some examples paddock holes have created particularly species rich habitats used by a range of invertebrates, shellfish (crabs), and worm species.

Implications of the site not being designated:

- If this site was not taken forward for designation the amount of subtidal mixed sediment protected would not meet the ENG adequacy target.
- If this site was not taken forward for designation subtidal chalk would not be represented at all within the regional project and there is only one example in existing MPAs.
- This site contains a reference area within the boundaries of the rMCZ. If this site was not taken forward we would be losing two sites from the network, both the rMCZ and recommended reference area. The two sites work together to provide protection to the important habitats.

Site name: rMCZ FS 17 Broad Bench to Kimmeridge Bay rMCZ (Finding Sanctuary) (Natural England lead)

Table 129 An overview of features proposed for designation within Broad Bench to Kimmeridge Bay rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.2 Moderate energy intertidal rock	BSH	✓	✓	X * 1	None	Maintain			
A2.1 Intertidal coarse sediment	BSH	✓	✓	X * 1	None	Maintain			
Peacock's tail <i>Padina pavonica</i>	FOCI Species	✓ * 2	✓	✓ * 3, 4	None	Maintain	This FOCI is currently only reaching the minimum replication target	This feature is not protected within existing MPAs	
Sea snail <i>Paludinella littorina</i>	FOCI Species	✓	✓	X * 5	The min. diameter of the rMCZ is less than the min. viable patch diameter for this FOCI species	Maintain		Only one replicate of this feature is protected within existing MPAs	

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	X * 4, 5, 6
Areas of Additional Ecological Importance	✓ * 8
Overlaps with existing MPAs	✓ * 7

Additional comments:

- ¹ The intertidal BSHs Moderate energy intertidal rock and Intertidal coarse sediment, do not reach the minimum viable criteria, in length or diameter. Unlike some intertidal features where the linear geographic nature is taken into account, this feature extends beyond the boundary so the designation is considered unviable.
- ² This rMCZ is one of only three replicates for *Padina pavonica* listed within the Finding Sanctuary recommendations. There are no listings for this species within an existing MPA.
- ³ Viability for the FOCI species *Padina pavonica* is dependent on patch diameter (0.5km). In some cases, viability in the intertidal has been considered where this is met in linear length alone, which is met here, so is considered viable. However, the local group originally suggested a longer area which could incorporate additional examples of the feature, which would greatly improve its viability.
- ⁴ The Finding Sanctuary SAD reports that “A recent dedicated search between Chapman’s Pool and Brandy Bay found *Padina pavonica* at Chapman’s Pool, Yellow Ledge, Washing Ledge and two pools on the eastern edge of Charnel. One of these pools is just inside the boundary as drawn (40m from the eastern boundary). The other pool is just outside. There were no other examples found inside the boundary”.
- ⁵ The viability for the FOCI species *Paludinella littorina* is dependent on patch diameter (1km). In some cases, viability in the intertidal has been considered where this is met in linear length alone, however this site is smaller in linear length, so is considered unviable.
- ⁶ An error was made in mapping the site due to a lack of a Mean Low water boundary on the GIS. As such, although the site is intended to be intertidal, it does also include some of the subtidal area. The subtidal area is species rich, dominated by sponges, rare algae’s, and bryozoans (for example, Ross coral at its most eastern limit), horn wrack and hydroids. Vertical rock faces with encrusting animals such as cup corals and anemones are present and would be a very rich addition to the network if the boundary is retained as it is.
- ⁷ The site covers a section of the South Dorset Coastal SSSI designated for terrestrial features (calcareous grassland, vegetated cliff and slope lies) and geological features. The site is adjacent to Studland to Portland pSAC, and within the Portland to Studland Cliffs coastal SAC. None of the existing designations place any protection on the intertidal rock and sediment habitats.

- The Finding Sanctuary final report states that the Joint Working Group proposed the rMCZ should follow the boundary of the Voluntary Marine Reserve to include more of the rich intertidal area. Concerns were raised about access for recreation such as windsurfing, but Natural England feels the site could be increased without impacting recreational activities which tend to concentrate on the other side of the bay near the slip way. Further more recent discussions at the Purbeck Marine Wildlife Reserve Committee (key local stakeholders), suggests there would be support to an increase the area of the site (pers comms. Natural England Adviser). Natural England suggest the site is increased to follow Voluntary Marine reserve boundary as far as possible, to include some of the very rich subtidal species (see comment 6), and to include further examples of *Padina pavonica* (see comment 4).

Suggested amendments:

- ³ Viability for the FOCl species *Padina pavonica* is dependent on patch diameter (0.5km). In some cases, viability in the intertidal has been considered where this is met in linear length alone, which is met here, so is considered viable. **However, the local group originally suggested a longer area which could incorporate additional examples of the feature, which would greatly improve its viability.**
- **The Finding Sanctuary final report states that the Joint Working Group proposed the rMCZ should follow the boundary of the Voluntary Marine Reserve to include more of the rich intertidal area. Concerns were raised about access for recreation such as windsurfing, but Natural England feels the site could be increased without impacting recreational activities** which tend to concentrate on the other side of the bay near the slip way. Further more recent discussions at the Purbeck Marine Wildlife Reserve Committee (key local stakeholders), suggests there would be support to an increase the area of the site (pers comms. Natural England Adviser). **Natural England suggest the site is increased to follow Voluntary Marine reserve boundary as far as possible, to include some of the very rich subtidal species (see comment 6), and to include further examples of *Padina pavonica* (see comment 4).**

Summary of site benefits:

- If taken forward, this site would help to achieve the minimum ENG replication target for the protection of FOCl species *Paludinella littorina*
- Broad Bench to Kimmeridge is a representative area of very rich intertidal habitat which supports lots of species. The areas richness has led to creation of a voluntary marine reserve previously. This has resulted in a visitor centre and marine interpretation centre at Kimmeridge Bay which is run by the Dorset Wildlife Trust for interpretation of the marine environment, education, and research work.
- The rMCZ has scientific value as the marine reserve status has attracted survey work in the area within intertidal and subtidal habitats.
- There is scientific value in this site because this is a well-studied site with good data from a range of sources (SAD in (Lieberknecht, et al. 2011), pages 416 and 424).
- The geology of the coastline is probably its most outstanding feature and the underlying reason for the diversity of habitats and features which are found here The area represents the eastern limit along the Channel of a number of species which have a south-western (Lusitanian) distribution (SAD in (Lieberknecht, et al. 2011), page 416).
- This rMCZ also intersects with polygonal data which The Seahorse Trust provided via our interactive map, indicating the stretches of the south-west coastline along which one or both species of seahorse are found.

- ⁸ The intertidal area is rich in species, including the black faced blenny (*Trypterygion atlanticus*), and the unusual alga *Cystoseira tamariscifolia* (SAD in (Lieberknecht, et al. 2011), page 417).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).

Implications of the site not being designated:

- If the site is not taken forward the network will not have enough replicates of FOCI species *Padina pavonica*.
If the site is not taken forward, it would be a lost opportunity to protect a very rich example of intertidal habitat in the south-west.

Site name: rMCZ FS 18 South of Portland rMCZ (Finding Sanctuary) (Natural England lead)

Table 130 An overview of features proposed for designation within South of Portland rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative consideration s at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.1 High energy circalittoral rock	BSH	✓	✓	X * 1	Viability target not met	Maintain			
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	X * 1	Viability target not met	Maintain			
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 2	X * 1	Viability target not met	Maintain	This BSH is currently only reaching the minimum adequacy target		
A5.4 Subtidal mixed sediments	BSH	✓	✓	X*1	Viability target not met	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	X * 1	Viability target not met	Maintain		Only a small proportion of this feature is captured in existing MPAs	

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	Portland Deep * ^{3, 4}
Appropriate boundary	X * ⁴
Areas of Additional Ecological Importance	✓ * ⁵
Overlaps with existing MPAs	✓ * ⁶

Additional comments:

- ¹ The rMCZ has a minimum diameter of less than 5km and is therefore not viable, however the features of interest extend beyond the current boundary, which could be extended to meet the ENG minimum viability guidelines for BSH.
- ² The minimum ENG adequacy target for Subtidal coarse sediment has only just been met.
- ³ The rMCZ covers 55% (8.72km²) of ENG-listed geological / geomorphological feature of interest, Portland Deep.
- ⁴ The boundary of the rMCZ has been drawn using the minimum number of straight lines in accordance with the ENG guidelines but could be extended to include the whole of the geological / geomorphological feature of interest, Portland Deep, which would also improve viability and adequacy guidelines for the BSH Subtidal coarse sediment.
- ⁵ Local group feedback indicates this area is important for seabirds and cetaceans, and also mentions the presence of bream nests in the area (SAD in (Lieberknecht, et al. 2011), page 430).
- ⁶ There is a slight overlap with Studland to Portland pSAC, but the pSAC protects the subtidal blue mussel bed so does not include the same interest features.

Suggested amendments:

- ¹ The rMCZ has a minimum diameter of less than 5km and is therefore not viable, **however the features of interest extend beyond the current boundary, which could be extended to meet the ENG minimum viability guidelines for BSH.**
- ⁴ The boundary of the rMCZ has been drawn using the minimum number of straight lines in accordance with the ENG guidelines **but could be extended to include the whole of the geological / geomorphological feature of interest, Portland Deep, which would also improve viability and adequacy guidelines for the BSH Subtidal coarse sediment.**

Summary of site benefits:

- The rMCZ incorporates Portland Deep - one of 12 ENG-listed geological / geomorphological features of importance - and its unique area of seabed, characterised by canyons and strong tidal streams, which create a very specific sea-floor habitat not found anywhere else in the south-west (SAD in (Lieberknecht, et al. 2011), page 432), and will also contribute to minimum adequacy guidelines for BSH that only just meet the minimum ENG criteria.
- This site has been mapped as an area of higher than average benthic species diversity within national data layers from contract MB102 (ABPmer 2009a)
- Local group feedback indicates this area is important for seabirds and cetaceans, and also mentions bream nests in the area (SAD in (Lieberknecht, et al. 2011), page 430).
- There is scientific value in this site because this is a well-studied site with good data from a range of sources (SAD in (Lieberknecht, et al. 2011), page 438).
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation then the ENG adequacy target for BSH Subtidal coarse sediment will be at its minimum within the region.
- The ENG-listed geological / geomorphological feature of interest, Portland Deep, will not be protected.

Site name: rMCZ FS 19 Chesil Beach and Stennis Ledges (Finding Sanctuary) (Natural England lead)

Table 131 An overview of features proposed for designation within Chesil Beach and Stennis Ledges and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓	✓	✓* 1	None	Maintain			
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A3.1 High energy infralittoral rock	BSH	✓	✓	X * 2	The viability target for this feature is not met	Recover			
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 3	X * 2	The viability target for this feature is not met	Recover	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	

A5.2 Subtidal sand	BSH	✓	✓	X * 2	The viability target for this feature is not met	Recover		Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	X	X * 8	The viability target for this feature is not met	Recover	The viability target for this feature is not met		
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Recover		Only a small proportion of this feature is captured in existing MPAs	
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 4					
Appropriate boundary				✓ * 5, 6					
Areas of Additional Ecological Importance				X					
Overlaps with existing MPAs				✓ * 7					

Additional comments:

- ¹ The intertidal BSHs do not reach the minimum viability criteria (5km²), however due to linear nature of Chesil Beach and its intertidal habitats, they are considered viable through length only (approx 15km in length).
- ² Viability for the subtidal BSH Subtidal coarse sediment, High energy infralittoral rock, and Subtidal sand are reliant on minimum viability criteria (5km²) which is not met at this site. Viability could be improved if the site was extended seaward but this may have implications on the stakeholder support for the site.
- ³ If this site, and any one other are not taken forward the adequacy for BSH Subtidal coarse sediment would not be met within the Finding Sanctuary project area, as it is already at its minimum.
- ⁴ Chesil Beach is a feature of the Jurassic Coast World Heritage Coastline which offers protection to the geological feature.
- ⁵ Moving the linear boundary seaward would incorporate further areas of subtidal coarse sediment and subtidal sand, and achieve minimum viability for all the BSH, and FOCI species *Eunicella verrucosa*.

- ⁶ FOCI species *Caecum armoricum*, *Gammarus insensibilis*, *Nematostella vectensis* and *Paludinella littorina* are all listed in FS SAD Table II.3.19e (Lieberknecht, et al. 2011). However, these are all lagoon species and are included in this site report as a result of a mapping error with the point records causing them to incorrectly lie within this site, instead of the Fleet rRA. These species should all be transferred to The Fleet recommended reference area site report.
- ⁷ The rMCZ overlaps with Chesil and The Fleet SAC and Studland to Portland pSAC. Also appears to overlap with Chesil Beach and The Fleet SSSI, SPA and Ramsar site (although the FS report (Lieberknecht, et al. 2011) only mentions the SAC boundary overlaps).
- ⁸ Viability for the FOCI species *Eunicella verrucosa* is dependant on a minimum viable diameter of 5km, which is not met at this site. Minimum viable patch for the feature could be met if the boundary extended seaward though this may have implications of the support for the site.

Suggested amendments:

- ² Viability for the subtidal BSH Subtidal coarse sediment, High energy infralittoral rock, and Subtidal sand are reliant on minimum viability criteria (5km²) which is not met at this site. **Viability could be improved if the site was extended seaward but this may have implications on the stakeholder support for the site.**
- ⁶ FOCI species *Caecum armoricum*, *Gammarus insensibilis*, *Nematostella vectensis* and *Paludinella littorina* are all listed in FS SAD Table II.3.19e (Lieberknecht, et al. 2011). **However, these are all lagoon species and are included in this site report as a result of a mapping error. These species should all be transferred to The Fleet recommended reference area site report.**
- ⁸ Viability for the FOCI species *Eunicella verrucosa* is dependant on a minimum viable diameter of 5km, which is not met at this site. **Minimum viable patch for the feature could be met if the boundary extended seaward though this may have implications of the support for the site.**

Summary of site benefits:

- A range of biotopes and associated species are found within the site boundary including: Pebbles in littoral bedrock; boulders; rocky outcrops; boulders separated by patches of sand; mud and gravel; extensive bed rock and boulders with *Laminaria hyperborea* which provides a unique habitat and substratum for many organisms and kelp forests are species rich habitats; *Nassarius reticulatus* on sand; as well as other species of hydrozoa, ascidians and porifera on all grades of rock debris.
- There are historic records for a species of maerl (*Lithothamnion sp.*) (Lieberknecht, et al. 2011, Dixon, et al. 1979), though no up to date point data..
- At the west end of Chesil Beach there is an inshore narrow zone of pebbles/shingle extending from the beach and a wider zone of pebbles/stones mixed with sand grading into a zone of sand and mud. A *Pagurus bernhardus*–*Maja squinado* association is found on the pebbles and sand. Large boulders at Chesil Cove support a rich hydrozoa-ascidiacea-porifera community. (SAD in (Lieberknecht, et al. 2011))
- Stennis Ledges is an area of rugged seabed which encourages a higher variation of biodiversity/biotopes within the site.
- *Ostrea edulis* is recorded within the site boundary. There is only one existing MPA designated for this species. Only six other MCZs are recommended for this species in the Finding Sanctuary project area. (SAD in (Lieberknecht, et al. 2011))

- There is anecdotal information on the additional presence of BSH High energy circalittoral rock and FOCI habitat Fragile sponge and anthozoan communities, present within the rMCZ boundary ref: DORIS Data, DWT; (Lieberknecht, et al. 2011, Dixon, et al. 1979) – Further investigation of data required, habitats may need to be added to as ENG features.
- Only a small proportion (<1%) of BSHs subtidal coarse sediment and subtidal sand are currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of these features in this region.
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries (Fletcher, et al. 2012).
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not taken forward the removal of any one other site recommended for subtidal coarse sediment would mean that the adequacy for this BSH would not be met within the Finding Sanctuary project area.
- There is only one existing MPA designated for the FOCI species *Ostrea edulis*, and 6 MCZs recommended. Therefore at least two of these six sites need to be taken forward to meet the replication criteria.

Site name: rMCZ FS 20 Axe Estuary rMCZ (Finding Sanctuary) (Natural England lead)

Table 132 An overview of features proposed for designation within the Axe Estuary rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓ * 1	None	Maintain			
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	N/A * 2	✓ * 1	None	Maintain			BAP
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain			BAP and OSPAR
European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	<i>Maintain/ Recover</i> * 3			BAP and OSPAR

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	✓
Areas of Additional Ecological Importance	✓ * 4
Overlaps with existing MPAs	✓ * 5

Additional comments:

- ¹ Although this rMCZ does not meet the minimum viable size for BSHs (5km minimum diameter) the entire estuary unit is contained within the rMCZ boundary. Therefore this rMCZ is believed to be viable for all BSHs (using Natural England expert judgement).
- ² Coastal salt marshes and saline reedbeds have no quantitative guidelines for adequacy
- ³ For the mobile FOCI species *Anguilla anguilla*, at the time of the vulnerability assessment meetings, no decision had been taken as to whether the conservation objective for this feature should be ‘maintain’ or ‘recover’. No quantitative information is included for this mobile FOCI species in the FS tables, as the GIS data is too coarse a resolution to be meaningful. However, the species has been included in the draft conservation objectives on the basis of evidence provided to the FS project by the EA. (SAD in (Lieberknecht, et al. 2011)).
- ⁵ A very small proportion of the mouth of the estuary overlaps with the Lyme Bay Statutory Instrument.

Summary of site benefits:

- Described as ‘relatively pristine’ in a 1978 sediment and *Scrobicularia plana* survey (Luoma 1978).
- Nursery area for fish including bass.
- ⁴ This is an estuary area with high productivity and an important function as a nursery area for mobile species
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are “critical components to future carbon management discussions and strategies” (Fletcher, et al. 2012).
- Intertidal mud is a highly productive ecosystem and is an important feeding ground for wading and migratory birds that is available all year round. This habitat plays a crucial role in primary biomass production through the biofilm made up of microalgae at the air-mud interface. Intertidal mudflats are desirable areas for carbon storage due to the higher sedimentation rates than some other habitats such as freshwater wetlands (Fletcher, et al. 2012).

Implications of the site not being designated:

- There would be less coastal salt marsh captured within the rMCZ series but this habitat is also protected by SACs.

Site name: rMCZ FS 21 Otter Estuary rMCZ (Fishing Sanctuary) (Natural England lead)

Table 133 An overview of features proposed for designation within the Otter Estuary rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.2 Subtidal sand	BSH	✓	✓	✓ * 1	None	Maintain		Only a small proportion of this feature is captured in existing MPAs.	
A3.1 High energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Maintain			
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	N/A	✓ * 1	None	Maintain			BAP
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain			BAP and OSPAR
European eel <i>Anguilla anguilla</i>	FOCI Mobile Species	✓	✓	N/A	None	<i>Maintain/ Recover</i> * 2			BAP and OSPAR

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	✓
Areas of Additional Ecological Importance	✓ * ³
Overlaps with existing MPAs	✓ * ⁴

Additional comments:

- ¹ Although this rMCZ does not meet the minimum viable size for BSHs (5km minimum diameter) the entire estuary unit is contained within the rMCZ boundary. Therefore this rMCZ is believed to be viable for all BSHs (using Natural England expert judgement).
- ² At the time of the vulnerability assessment meetings no decision was taken as to whether the conservation objective for this feature should be ‘maintain’ or ‘recover’. No quantitative information is included for this mobile FOCI species in the FS tables as the GIS data was too coarse a resolution to be meaningful. However, the species has been included in the draft conservation objectives on the basis of evidence provided to the FS project by the EA. (SAD in (Lieberknecht, et al. 2011))
- ³ This is an estuary area with high productivity and an important function as a nursery area for mobile species.
- ⁴ The Otter Estuary rMCZ boundary overlaps the Otter Estuary SSSI boundary. The SSSI is designated for a number of BAP habitats (Fen, marsh and swamp, Salt marsh, and Rivers and streams) and the geological feature ‘EC Coastal Cliffs and Foreshore’.
- The area of coastal salt marsh calculated in the FS GIS analysis is likely to be an underestimate of the salt marsh area present along the estuary, as the rMCZ site boundary is at OS boundary line MHW, and the habitat probably extends above that, but is then protected by the SSSI designation.

Summary of site benefits:

- 1989 Salt marsh survey of GB (Burd 1989) states that the Otter has more salt marsh vegetation than any other site in Devon, and with the associated tidal mudflats, it provides an important feed and resting area for overwintering birds.
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are “critical components to future carbon management discussions and strategies”. (Fletcher, et al. 2012)

- Intertidal mud is a highly productive ecosystem and is an important feeding ground for wading and migratory birds that is available all year round. This habitat plays a crucial role in primary biomass production through the biofilm made up of microalgae at the air-mud interface. Intertidal mudflats are desirable areas for carbon storage due to the higher sedimentation rates than some other habitats such as freshwater wetlands (Fletcher, et al. 2012).
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos. Estuarine soft sediments support a diverse group of microscopic and macroscopic organisms (Fletcher, et al. 2012).

Implications of the site not being designated:

- A5.2 Subtidal Sand: Only a small proportion of this feature is captured in existing MPAs in the FS area so not designating this rMCZs would lead to adequacy guidelines for the FS region not being met.

Site name: rMCZ FS 22 Torbay rMCZ (Finding Sanctuary) (Natural England lead)

Table 134 An overview of features proposed for designation within Torbay rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the joint second largest area of low energy intertidal rock		
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 2	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain			

A2.4 Intertidal mixed sediments	BSH	✓	✓	✓ * 1	None	Maintain			
A5.3 Subtidal mud	BSH	✓	✓	X	Viability not met, site less than 5km minimum diameter	Recover			
Long-snouted seahorse <i>Hippocampus guttulatus</i>	FOCI Species	X * 11	X	✓ * 3	Replication not met – less than three replicates in FS area.	Maintain	This feature falls short of the minimum number of replicates	This feature is not protected within existing MPAs within the FS area	WCA, OSPAR and BAP species
Intertidal underboulder communities	FOCI Habitat	✓	✓	✓ * 4	None	Maintain			BAP habitat
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Maintain			BAP and OSPAR species
Peacock’s tail <i>Padina pavonica</i>	FOCI Species	✓ * 5	✓	✓ * 6	None	Maintain	This FOCI is currently only reaching the minimum replication target	This feature is not protected within existing MPAs within the FS area	BAP species
Sea snail <i>Paludinella littorina</i>	FOCI Species	✓	✓	✓ * 7	None	Maintain			OSPAR and WCA species
Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	✓	✓	✓ * 8	None	Maintain			BAP habitat
Seagrass beds	FOCI Habitat	✓	✓	✓	None	Recover			BAP and OSPAR habitat
Black-throated loon <i>Gavia arctica</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			BAP species

Great northern loon <i>Gavia immer</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			
Great crested grebe <i>Podiceps cristatus</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			
Black-necked grebe <i>Podiceps nigricollis</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			WCA species
Red-necked grebe <i>Podiceps grisegena</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			
Slavonian grebe <i>Podiceps auritus</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			WCA species
Common guillemot <i>Uria aalge</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			OSPAR species
Harbour porpoise <i>Phocoena phocoena</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			BAP, OSPAR and WCA species
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 9					
Overlaps with existing MPAs				✓ * 10					

Additional comments:

- ¹ Due to the linear nature of the intertidal this rMCZ meets the minimum viable size for intertidal BSHs through its maximum diameter only
- ² The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ³ Viability for *Hippocampus guttulatus* is dependent on patch diameter (0.5km). A 0.5km area encompassing the record(s) is possible within this rMCZ, however it is unclear whether the habitat available will support this feature. In Natural England's expert judgement, there are sufficient seagrass beds within the rMCZ boundary to support this species.
- ⁴ Due to the linear nature of the intertidal this rMCZ meets the minimum viable patch size for intertidal underboulder communities (0.5km) through its maximum diameter only.
- ⁵ The FOCI species *Padina pavonica* only has the minimum amount of replicates.
- ⁶ Viability for *Padina pavonica* requires a minimum patch diameter of 0.5km. A 500m area encompassing the record is possible within the rMCZ.
- ⁷ Viability for *Paludinella littorina* requires a minimum patch diameter of 1km. Although there is not a 1km patch within the rMCZ around the existing record, there are similar areas of sufficient size nearby within the rMCZ boundary.
- ⁸ Viability for *Sabellaria alveolata* reefs requires a minimum patch diameter of 0.5km. A 500m area encompassing the record is possible within the rMCZ, however it is unclear whether the habitat available will support this feature.
- ⁹ There are two rare sublittoral habitats present within the site, peat bog and fossil forest, both of which are found in the western end of Torbay (SAD in (Lieberknecht, et al. 2011)). In addition the largest breeding colony of guillemots on the English Channel Coast is present on the cliffs at Berry Head (ref <http://www.countryside-trust.org.uk/bap/TCCT%20BAP%20pdfs/Seabirds%20SAP.pdf>)
- ¹⁰ This rMCZ overlaps with the Torbay Section of the Lyme Bay and Torbay cSAC (designated for subtidal reefs and sea caves), the Berry Head Area of Special Protection (designated for its Guillemot colony), and several small coastal SSSIs.
- ¹¹ There are only two replicates of FOCI species *Hippocampus guttulatus* listed within the regional project area, however Studland Bay harbours a significant population of this species, although it is not listed as a FOCI species as information was not reviewed before the designation process. It is recommended that the species is added to Studland Bay rMCZ then it will meet replication guidelines within the region.

Suggested amendments:

- ² The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**
- ¹¹ There are only two replicates of FOCI species *Hippocampus guttulatus* listed within the regional project area, however Studland Bay harbours a significant population of this species, although it is not listed as a FOCI species as information was not reviewed before the designation process. **It is recommended that the species is added to Studland Bay rMCZ then it will meet replication guidelines within the region.**

Summary of site benefits:

- There are a significant amount of scientific records for this site, in particular for the seagrass beds, which have very rich faunas associated with them (SAD in (Lieberknecht, et al. 2011)). One of the seagrass beds within the rMCZ boundary is thought to be one of the largest in South-west England (pers comm, G Black).
- This site has been described as a hotspot for both species of seahorse (*Hippocampus hippocampus* and *Hippocampus guttulatus*) (SAD in (Lieberknecht, Hooper, et al. 2011)).
- Devon Wildlife Trust has described Torbay as the 'jewel in South Devon's crown' for marine wildlife (SAD in (Lieberknecht, et al. 2011)).
- Torbay is the second most important area in the south-west for wintering diver and grebe concentrations (SAD in (Lieberknecht, et al. 2011)).
- Important breeding and nursery area for commercial fish species (SAD in (Lieberknecht, et al. 2011)).
- Out of all the rMCZs in the FS area, this site contributes the joint second largest area of low energy intertidal rock.
- This is only one of two sites for *Hippocampus guttulatus* proposed within the FS area.
- This site is one of only three proposed for *Padina pavonica* within the FS area.
- This site is well known for its visiting marine megafauna (incl. Basking sharks, bottlenose dolphins, common dolphins, and porpoises).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK. This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Sediment habitats are ecologically important. They support sand eel and other burrowing fauna which support seabirds such as puffin, razorbills and guillemots, and wading birds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals.

- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients.

Implications of the site not being designated:

- If this site is not designated, there will be only one rMCZ with FOCl *Hippocampus guttulatus* listed in the FS area (Whitsand and Looe Bay, FS 28)
- If this site is not designated, the replication target will not be met for *Padina pavonica*.
- If this site is not designated, there is an increased risk of damage to the seagrass beds, which play an important role in stabilising sediment, thus protecting the shallow sublittoral from erosion. The seagrass within Torbay is also an important fish nursery area and is the focus for cuttlefish spawning in the area.

A5.1.4 Region 4 – Western Channel and Celtic Sea

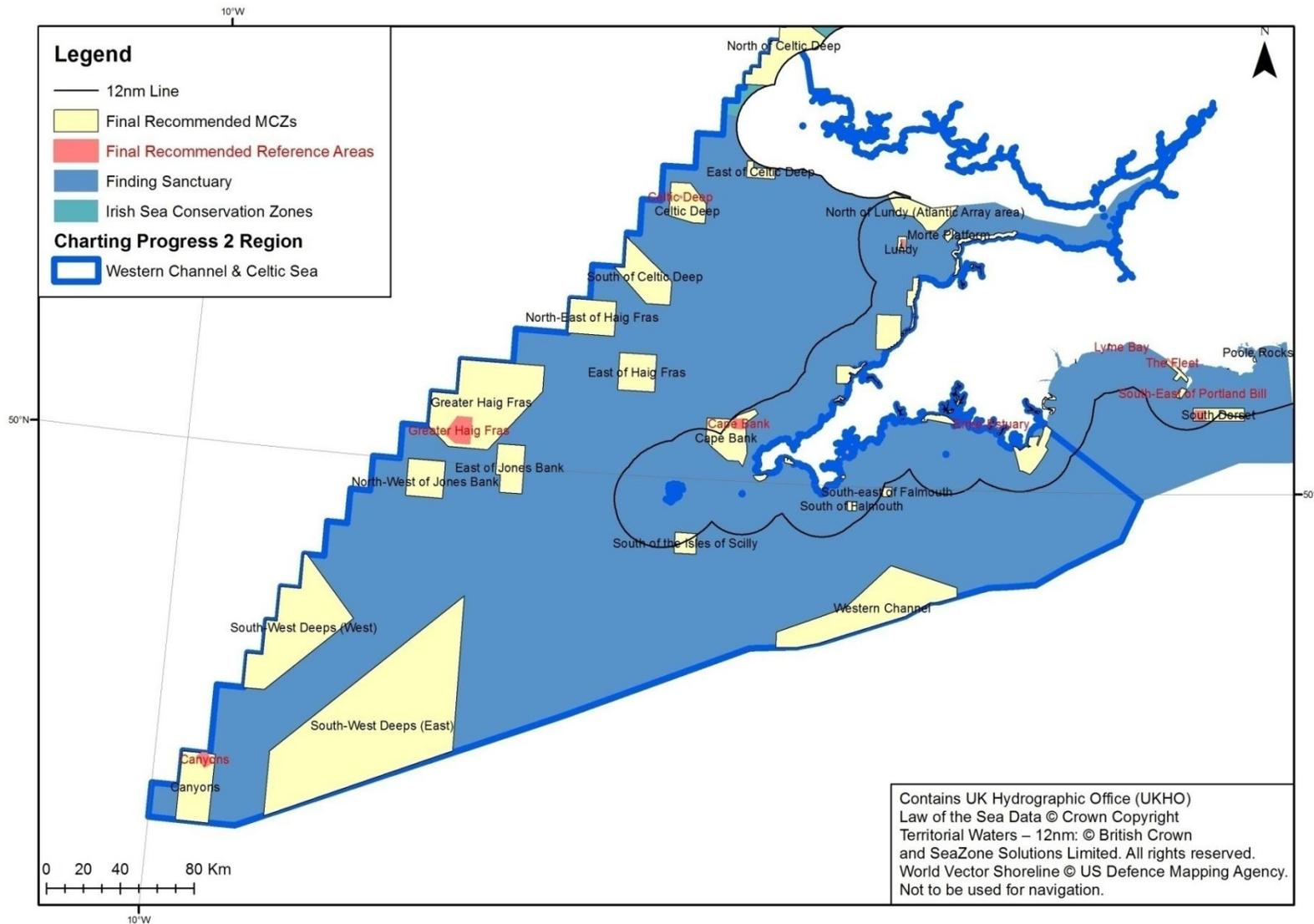


Figure 18 Western Channel and Celtic Sea regional sea

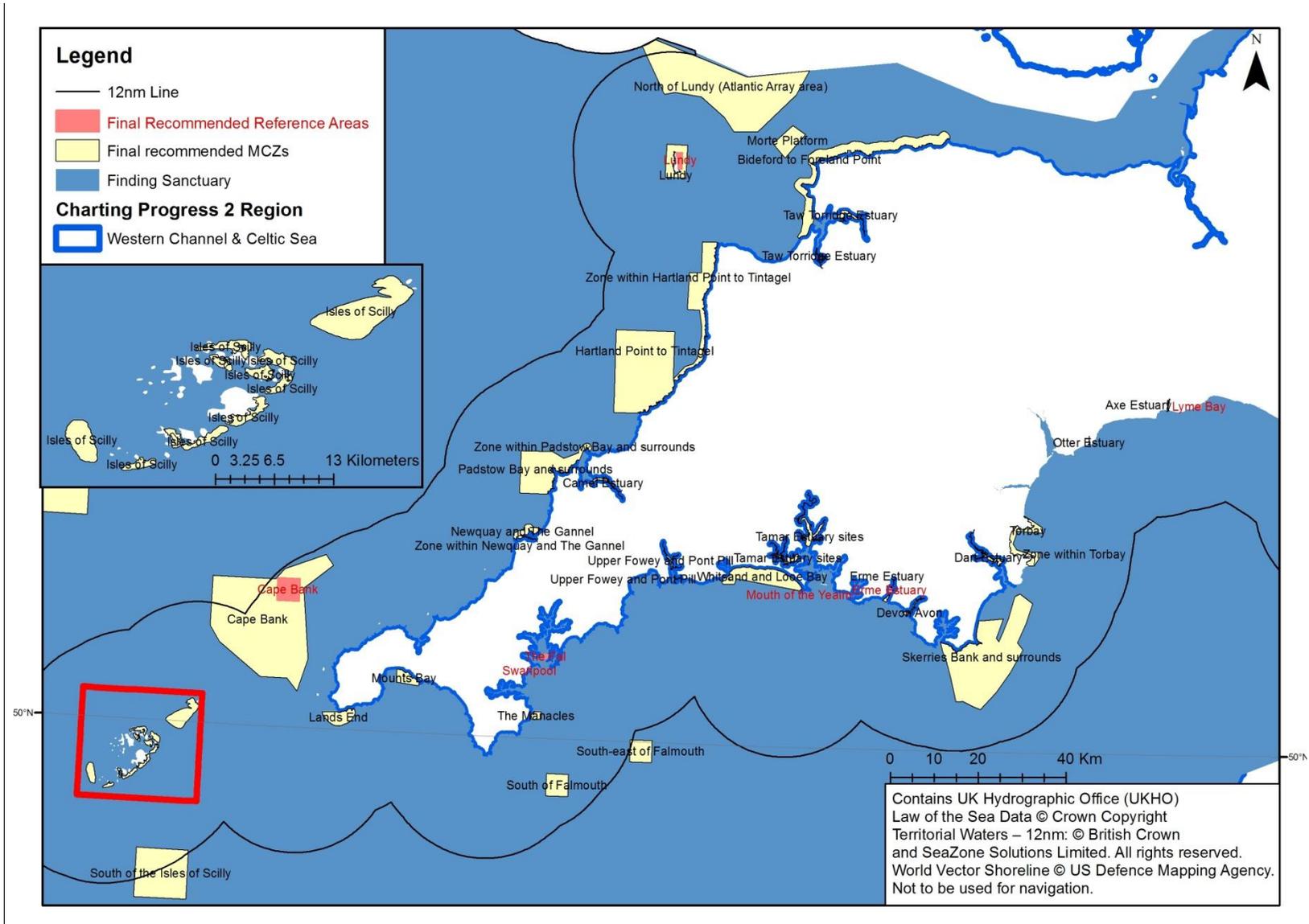


Figure 19 An inshore zoom of the Western Channel and Celtic Sea regional sea

Site name: FS 10 Celtic Deep rMCZ and FS RA 03 Celtic Deep recommended reference area (Finding Sanctuary) (JNCC)

Table 135 An overview of features proposed for designation within the Celtic Deep rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Mud habitats in deep water	FOCI	✓ * 1	✓	✓	None	Recover		This feature is not protected within existing MPAs.	BAP habitat This feature is not protected within existing MPAs.
A5.3 Subtidal mud	BSH	✓	✓	✓	None	Recover	Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of subtidal mud. This site makes a significant contribution towards achieving the adequacy target for this feature.	Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs. Out of all of the rMCZs and existing MPAs in the Western Channel and Celtic Sea Regional Sea this site contributes the second largest area of subtidal mud.

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	✓ * 2
Appropriate boundary	✓ * 3
Areas of additional ecological importance	✓ * 4
Overlaps with existing MPAs	None

Table 136 An overview of features proposed for designation within the Celtic Deep recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Mud habitats in deep water	FOCI	✓ * 5	Recover to reference condition
Subtidal mud	BSH	X	Recover to reference condition
Site considerations			
Appropriate boundary		✓	

Additional comments:

- ¹ The minimum target for replication has not been achieved for the FOCI mud habitats in deep water due to limited known distribution of this habitat FOCI.
- ³ The boundary of the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. The boundary has clearly been drawn to capture the FOCI mud habitats in deep water.
- ⁵ The Celtic Deep recommended reference area is very small and only viable for the FOCI mud habitats in deep water, not the broad-scale habitat subtidal mud.

Suggested amendments:

- None.

Summary of site benefits:

- This is the only area in the offshore within this regional MCZ project region that has records for the FOCI mud habitats in deep water.

- This rMCZ contributes the second largest area of subtidal mud in the regional MCZ project area and the Western Channel and Celtic Sea region. Only a small area of this habitat is currently protected by existing MPAs and there is a deficit in meeting this target within other regional MCZ project areas. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ² Although not put forward for designation, the site area includes Glacial Process erosional features, and some sediment bedforms resulting in topography worthy of further study.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ and recommended reference area overlap with an area of high benthic species biodiversity and an area of high benthic biotope biodiversity (Langmead, et al. 2010).
 - This rMCZ overlaps with an area containing a summer thermal front (MB0102); data for marine mammals (Whale and Dolphin Conservation Society data) in particular for common dolphins (Lieberknecht, et al. 2011), and there are sightings data for basking sharks (Marine Conservation Society and the Shark Trust data). There are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - The site falls within the foraging radii for certain seabird species (RSPB data) within the locality. An analysis of the numbers and distribution of seabirds found that the area is a low to medium density area in general for all seabirds during summer and winter and for Arctic tern during breeding; a medium density area for Manx shearwater in autumn in the north of the area, for lesser black-backed gull during breeding, for great black-backed gull during winter, for razorbill during breeding and for northern gannet all around the year; a medium to high density area for herring gulls during winter and for black-legged kittiwakes during winter; and a high density area for lesser black-backed-gull during winter. The area also lies to the north of a high density area of Manx shearwater during breeding (Kober, et al. 2010).

Implications of the site not being designated:

- As the Celtic Deep rMCZ provides the second largest area of subtidal mud within the regional MCZ project area it makes a significant contribution towards achieving the adequacy guidelines for this broadscale habitat within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline. This site also contains the only example of the FOCI mud habitats in deep water within the offshore of the regional MCZ project area and Western Channel and Celtic Sea region and so this would result in the replication guideline for this FOCI not being achieved. This would leave only one replicate of this FOCI in the inshore area.

Site name: FS 11 East of Celtic Deep rMCZ (Finding Sanctuary) (JNCC)

Table 137 An overview of features proposed for designation within the East of Celtic Deep rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment * 1	BSH								
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover		Only a small proportion of this feature is captured in existing MPAs.	
A5.3 Subtidal mud	BSH	✓	✓	✓	None	Recover		Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	✓ * 2
Appropriate boundary	✓
Areas of additional ecological importance	✓ * 3
Overlaps with existing MPAs	None

Additional comments:

- ¹ Finding Sanctuary has recommended a recover objective for subtidal coarse sediment in East of Celtic Deep. We advised Finding Sanctuary in June 2011, that given the wider distribution beyond the site boundary, it is unlikely that achievement of any conservation objective could be realistically assessed for this feature. No additional information has become available which would indicate our June advice is no longer appropriate. We therefore advise here that subtidal coarse sediment in this site is not listed for designation.

Suggested amendments:

- We do not agree with the inclusion of subtidal coarse sediment as a feature for designation and suggest that it is not included if this rMCZ is designated (see comment above).

Summary of site benefits:

- This site contributes to achieving the adequacy and replication guidelines for two broad-scale habitats which are currently only protected in small amounts within existing MPAs in both the regional MCZ project area and the Western Channel and Celtic Sea region. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ² Although this rMCZ is not proposed directly for its geological or geomorphological features of interest, there are features such as the Celtic Deep glaciated channel and the area shows the maximum lateral extent of ice during the last glacial period. A recent survey also found large sand waves (possibly relict) within this rMCZ.
- ³ The regional MCZ project recommendations state that this rMCZ was selected in part because of its added ecological importance (Lieberknecht, et al. 2011) .
 - This site overlaps with an area of high benthic species biodiversity (Langmead, et al. 2010). This rMCZ overlaps with an area containing a highly persistent summer oceanic thermal front (MB0102), data for marine mammals (Whale and Dolphin Conservation Society data) and sightings data for basking sharks (Marine Conservation Society and the Shark Trust data). There are also nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).

- The site falls within the foraging radii for seabird species (RSPB data). An analysis of the numbers and distribution of seabirds found that the area is a medium density area for common guillemot, razorbill and northern gannet during winter and also some auks during winter. It is also a high density area for Manx shearwater, lesser black-backed gull, and gannets during the breeding season, and in general for seabirds during the summer. The site lies south of a high density area of black-legged kittiwake during breeding, razorbill during breeding and moult and Atlantic puffin during breeding (Kober, et al. 2010). The regional MCZ project recommendations state that feedback from their RSPB stakeholders suggest there is a healthy seabird population in this location, especially aggregations of wintering seabirds (Lieberknecht, et al. 2011).

Implications of the site not being designated:

- If this site is not put forward for designation, there is still scope to achieve the ENG guidelines for the features listed for designation at this site, within the remaining rMCZs and existing MPAs in this region. If this site is not taken forward to designation the connectivity between EUNIS Level 2 sublittoral sediment will potentially be reduced between the offshore area of this regional MCZ project and both the adjoining regional MCZ project area and inshore Welsh waters.

Site name: FS 07 East of Haig Fras rMCZ (Finding Sanctuary) (JNCC)

Table 138 An overview of features proposed for designation within the East of Haig Fras rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.2 Moderate energy circalittoral rock	BSH	✓	✓ * 1	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target		
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 2	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	Only a small proportion of this feature is captured in existing MPAs.	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea.
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover		Only a small proportion of this feature is captured in existing MPAs.	

Site considerations	
Connectivity	✓ * 3
Geological/Geomorphological features of interest	✓ * 4
Appropriate boundary	✓
Areas of additional ecological importance	✓ * 5
Overlaps with existing MPAs	None

Additional comments:

- ^{1,2} Adequacy guidelines for the broad-scale habitats subtidal coarse sediment and moderate energy circalittoral rock have only just been achieved within this regional MCZ project area.
- ³ From an initial assessment it appears that this rMCZ is crucial for the connectivity of EUNIS Level 2 circalittoral rock and sublittoral sediment between the far offshore rMCZs and those further inshore.

Suggested amendments:

- None.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of three broad-scale habitats, two of which are only just achieving the adequacy guidelines set. In the case of subtidal coarse sediment, this site makes a significant contribution towards achieving the target for adequacy as well as to increase this habitat's representation within MPAs in both the regional MCZ project area and the Western Channel and Celtic Sea region. This site also contributes to the representation of subtidal sand within MPAs in the regional MCZ project area, where only a small proportion of this habitat is currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats and complies with the viability guidelines.
- ⁴ Although not proposed as a primary feature for geology/ geomorphology in the rMCZ, the northern extent of the site has a slight overlap with a geomorphological feature, a longitudinal sedimentary bedform field.
- ⁵ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - There are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - The site falls within the foraging radii for seabird species (RSPB data). An analysis of the numbers and distribution of seabirds found that there are low to medium densities of northern gannet during breeding; medium densities of European storm petrel during breeding in the east of the area, and of herring gull during breeding in the west of the area (and possibly also of Arctic skuas during breeding); medium to high densities of lesser black-backed gull during breeding; and high densities of common guillemots during winter in the south-east of the area (Kober, et al. 2010).

Implications of the site not being designated:

- As the adequacy target for subtidal coarse sediment is only just being achieved, the East of Haig Fras rMCZ makes a significant contribution towards achieving the guideline for this broad-scale habitat within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.

Site name: FS 06 East of Jones Bank rMCZ (Finding Sanctuary) (JNCC)

Table 139 An overview of features proposed for designation within the East of Jones Bank rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.2 Moderate energy circalittoral rock	BSH	✓	✓ * 1	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area		
A5.2 Subtidal sand * 2	BSH								
A5.3 Subtidal mud	BSH	✓	✓	✓ * 3	None	Recover		Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea.

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	✓ * 4
Appropriate boundary	✓
Areas of additional ecological importance	✓ * 5
Overlaps with existing MPAs	None

Additional comments:

- ¹ The adequacy target for moderate energy circalittoral rock feature has only just been achieved within this regional MCZ project area.
- ² Finding Sanctuary has recommended a recover objective for subtidal sand in East of Jones Bank. We advised Finding Sanctuary in June 2011 that a conservation objective is not appropriate for subtidal sand in this site. Given the wider distribution beyond the respective boundaries, it is unlikely that a conservation objective would be achievable. No additional information has become available which would indicate our previous advice is no longer appropriate, we therefore advise subtidal sand is not listed for designation in this site.
- ³ Although the site is viable in size, subtidal mud only occurs in a very small patch.

Suggested amendments:

- We do not agree with the inclusion of subtidal sand as a feature for designation and suggest that it is not included if this rMCZ is designated (see comment above).

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of two broad-scale habitats, one of which is only just achieving the adequacy target set. In the case of moderate energy circalittoral rock, this site makes a significant contribution towards achieving the adequacy target. This site also contributes to the representation of subtidal mud within MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of this habitat is currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats and complies with the viability guidelines.
- ⁴ Although this rMCZ is not proposed directly for its geological or geomorphological features of interest, the area encompasses the maximum lateral extent of ice during the last glacial period.
- ⁵ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - There are nursery and spawning grounds for a number of fish in the local area (Ellis, et al. 2012).
 - The site falls within the foraging radii for seabird species (RSPB data). An analysis of the numbers and distribution of seabirds found that there are low to medium density for European storm petrel and lesser black-backed gull during breeding and it is possibly a medium density area of great skua during breeding in the south-east of the area, and possibly of black-legged kittiwake during winter (Kober, et al. 2010).

Implications of the site not being designated:

- The East of Jones Bank rMCZ makes a significant contribution towards achieving the guideline for moderate energy circalittoral rock within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.

Site name: FS 05 Greater Haig Fras rMCZ and FS RA 02 Greater Haig Fras recommended reference area (Finding Sanctuary) (JNCC)

Table 140 An overview of features proposed for designation within the Greater Haig Fras rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.2 Moderate energy circalittoral rock * 1									
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 2	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea.

A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover		Only a small proportion of this feature is captured in existing MPAs.	
A5.3 Subtidal mud	BSH	✓	✓	✓	None	Recover		Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea.
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover	This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area		
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				Geological process feature – Haig Fras Rock Complex * ³					
Appropriate boundary				✓					
Areas of additional ecological importance				✓ * ⁴					

Overlaps with existing MPAs	Haig Fras SAC sits within the boundary of the rMCZ * ⁵
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Table 141 An overview of features proposed for designation within the Greater Haig Fras recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A4.2 Moderate energy circalittoral rock	BSH	✓	Recover to reference condition
A5.1 Subtidal coarse sediment	BSH	✓	Recover to reference condition
A5.2 Subtidal sand	BSH	✓	Recover to reference condition
A5.3 Subtidal mud	BSH	✓	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ^{1,5} Moderate energy circalittoral rock has been proposed as a feature for designation within this rMCZ. Recent survey work of the Haig Fras SAC has shown the location of this habitat to be different to that shown on the broad-scale habitat maps provided to the regional MCZ projects. The rock habitat appears to be to the south-east of the current SAC boundary, not the north-west, which is where the current broad-scale habitat map indicates it to be. We would advise that the moderate energy circalittoral rock being put forward in Greater Haig Fras is not listed for designation as it abuts the SAC boundary. We would therefore advise that this feature is not listed for designation within the MCZ and additional survey work is undertaken to determine what feature is actually present on the seabed at that location. This will also leave uncertainty as to what the habitat to the north-west of the SAC is and so further data will need to be gathered. The uncertainty surrounding the presence and location of this habitat does have potential implications for achieving the network design principle of adequacy depending on the area of this habitat to the south-east, especially because the minimum target was only just being achieved by the regional MCZ project recommendations. It will also mean that the importance of any site containing this feature will increase and until the area of moderate energy circalittoral rock is confirmed within this rMCZ, the Western Channel rMCZ will become the largest contributor to achieving the adequacy target for this feature.
- ² The adequacy target for subtidal coarse sediment has only just been achieved within this regional MCZ project area.

- ³ Finding Sanctuary has not confirmed its recommendation of the feature *fragile sponges and anthozoan communities* within Greater Haig Fras, pending the outcome of a survey we commissioned in early 2011. A subsequent check of the location of this feature reveals that it is located within the current Haig Fras SAC boundary and therefore afforded protection under that designation. We advise that this feature will already be afforded protection by the management measures put in place to protect the Annex I reef within the SAC and, as such, it should not be listed as a feature for designation within the MCZ. Similarly, the Haig Fras rock complex would be afforded incidental protection by the protection provided to the Annex I reef within the Haig Fras SAC as the location of the Annex I reef and the geological rock complex are coincident.

Suggested amendments:

- We advise that further evidence is collected to clarify the presence and extent of the BSH moderate energy circalittoral rock.
- We advise that if the presence of moderate energy circalittoral rock is confirmed, it should be incorporated into the cSAC not as a feature for designation within this rMCZ.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of four broad-scale habitats, one of which is only just achieving the adequacy guidelines set. In the case of subtidal mixed sediment and subtidal coarse sediment this site makes a significant contribution towards achieving both adequacy guidelines. This site also contributes to the representation of subtidal sand within MPAs in the regional MCZ project area and subtidal coarse sediment and subtidal mud within MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of these habitats are currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats and complies with the viability guidelines.
- This rMCZ hosts a wide range of broad-scale habitats from rocky to soft sediment habitats.
- ³ This site is proposed as an rMCZ for a Geological process feature. The Haig Fras rock complex, which is a feature listed in the ENG is a granite outcrop, an intrusion of magma through older rocks. The granite is about the same age (formed during the Variscan Orogeny) as the terrestrial granites of South-west England such as Isles of Scilly, Land's End and Dartmoor, however its relationship to these other granite masses is, as yet, unclear. It is thought that the rock itself has been cut through by later intrusions of igneous rocks of different composition. The feature is a large, steep-sided rock outcrop of up to 100m in height. This is the only substantial area of rocky reef in the Celtic Sea beyond the coastal margin.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - There are sightings data for basking sharks (Marine Conservation Society and the Shark Trust data) and there are nursery and spawning grounds for a number of species within the local area (Ellis, et al. 2012).
 - The site falls within the foraging radii for seabird species (RSPB data). An analysis of the numbers and distribution of seabirds found that there are medium high densities for European storm petrel during breeding and lesser black-backed gull during breeding within this area (Kober, et al. 2010).

Implications of the site not being designated:

- The Greater Haig Fras rMCZ makes a significant contribution towards achieving the adequacy guidelines for coarse sediment and subtidal mixed sediment within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve these adequacy guidelines.
- In addition, this site contains the geological feature the Haig Fras rock complex and therefore if this site is not designated the range of geological features represented by the suite of rMCZs would be reduced.

Site name: FS 08 North East of Haig Fras rMCZ (Finding Sanctuary) (JNCC)

Table 142 An overview of features proposed for designation within the North-East of Haig Fras rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓*1	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover		Only a small proportion of this BSH is currently protected within existing MPAs	

A5.3 Subtidal mud	BSH	✓	✓	✓	None	Recover		Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 2					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ The adequacy target for subtidal coarse sediment has only just been achieved within this regional MCZ project area.

Suggested amendments:

- None

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of four broad-scale habitats, one of which is only just achieving the adequacy target set. In the case of subtidal coarse sediment this site makes a significant contribution towards achieving the adequacy target. This site also contributes to the representation of subtidal sand within MPAs in the regional MCZ project area and subtidal coarse sediment and subtidal mud within

MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of these habitats are currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.

- This rMCZ hosts a wide range of soft sediment broad-scale habitats from mud to coarse sediment habitats.
- ² Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - There are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - The site falls within the foraging radii for seabird species (RSPB data). An analysis of the numbers and distribution of seabirds found that there are low to medium densities of great skua during winter, lesser black-backed gull during breeding in the south-west of the area, and common guillemots during winter. There are also medium densities of northern gannet during winter (Kober, et al. 2010).

Implications of the site not being designated:

- As the adequacy target for subtidal coarse sediment is only just being achieved, the North East of Haig Fras rMCZ makes a significant contribution towards achieving the guideline for this broad-scale habitat within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.

Site name: IS CZ 05 North of Celtic Deep rMCZ (ISCZ) (JNCC)

Table 143 An overview of features proposed for designation within North of Celtic Deep rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Recover			BAP habitat
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓ * 1	None	Maintain	This habitat has limited distribution within the regional project area	Only a small proportion of this BSH is currently protected within existing MPAs	
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Recover	Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of subtidal coarse sediment.	Only a very small proportion of this feature is protected in existing MPAs	Only a very small proportion of this feature is protected in existing MPAs within the Irish Sea Regional Sea.
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			

Site considerations	
Connectivity	✓ * 2
Geological/Geomorphological features of interest	✓ * 3
Appropriate boundary	✓
Areas of additional ecological importance	✓ * 4
Overlaps with existing MPAs	None

Additional comments:

- ¹ There is only a small patch of moderate energy circalittoral rock.
- ² This site is essential for the connectivity between the rock and soft sediment features in Finding Sanctuary sites and the Irish Sea sites.

Suggested amendments:

- None.

Summary of site benefits:

- The site contributes towards the achievement of ENG guidelines on representation, replication and adequacy for three broad-scale habitats, and one habitat FOCI. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats and complies with the viability guidelines.
- The site has scientific interest as it is located within two bio-geographical regions, the Irish Sea Region and Western Channel and Celtic Sea. Information and data from this site can be used to inform and better define the boundary between regions.
- ³ Although this site does not have any primary geological or geomorphological features of interest proposed for designation, the rMCZ does have glacial erosional features. There is interesting bathymetry in the south of the site as it overlaps with the Celtic Deep, an area of increased depth in comparison to much of the continental shelf.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ overlaps with a seasonal thermal front and areas of high and medium benthic species biodiversity and an area of medium benthic biotope biodiversity (Langmead, et al. 2010) . There are records of sightings of basking sharks (Marine Conservation Society and the Shark Trust data) and data for for marine mammals (Whale and Dolphin Conservation Society data) within this rMCZ as well as the site falling within the foraging radii for certain seabird species (RSPB data). There are also records for nursery grounds for a number of fish species within the local area (Ellis, et al. 2012).

Implications of the site not being designated:

- If this site is not taken forward for designation, there is still scope to achieve the ENG guidelines for the features listed for designation at this site, within the remaining rMCZs and existing MPAs in this region. If this site is not taken forward to designation the connectivity between the Finding Sanctuary sites and Irish Sea sites will be lost.

Site name: FS 04 North West of Jones Bank rMCZ (Finding Sanctuary) (JNCC)

Table 144 An overview of features proposed for designation within the North-West of Jones Bank rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓ * 2	None	Recover	This BSH is currently only reaching the minimum adequacy target.	Only a small proportion of this BSH is currently protected within existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea
A5.2 Subtidal sand * 3	BSH								
A5.3 Subtidal mud	BSH	✓	✓	✓	None	Recover	Out of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal mud. This site makes a significant contribution towards meeting the lower level target for this feature within the	Only a small proportion of this BSH is currently protected within existing MPAs	Out of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal mud in the whole MCZ project area and the CP2 region 4. Only a small proportion of this BSH is currently protected within existing MPAs in the Western

							regional MCZ project area		Channel and Celtic Sea Regional Sea
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * ⁴					
Appropriate boundary				✓					
Areas of additional ecological importance				✓ * ⁵					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ The adequacy target for subtidal coarse sediment has only just been achieved within this regional MCZ project area.
- ² The site is viable for the features that are proposed for designation, however the patch of subtidal coarse sediment is very small.
- ³ Finding Sanctuary has recommended a recover objective for subtidal sand in North West of Jones Bank. We advised Finding Sanctuary in June 2011 that a conservation objective is not appropriate for subtidal sand in this site. Given the wider distribution beyond the respective boundaries, it is unlikely that a conservation objective would be achievable. No additional information has become available which would indicate our previous advice is no longer appropriate, we therefore advise subtidal sand is not listed for designation in this site.

Suggested amendments:

- We do not agree with the inclusion of subtidal sand as a feature for designation and suggest that it is not included if this rMCZ is designated (see comment above).

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of two broad-scale habitats, one of which is only just achieving the adequacy target set. In the case of subtidal mud this site contributes the largest area of subtidal mud out of all rMCZs and existing MPAs within the regional MCZ project area, the Western Channel and Celtic Sea region and the whole MCZ project area. It is for this reason that this site makes a very significant contribution towards achieving the adequacy target for this feature. This site also contributes to the representation of subtidal coarse sediment and subtidal mud within MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of these habitats are currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ⁴ Although not proposed for designation, in the south, the site contains ice-rafted sediment which was carried by floated ice and deposited when it melted. This was a key process of sediment transport during the Great Ice Age, when sea levels were very much lower.
- ⁵ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:

- There are nursery and spawning grounds for a number of fish species in the local area (Ellis, et al. 2012).
- This rMCZ falls within the foraging radii for seabird species (RSPB data). The regional MCZ project recommendations state that stakeholder feedback has suggested this area is important for winter foraging seabirds (Lieberknecht, et al. 2011) . An analysis of the numbers and distribution of seabirds found that there are low to medium densities of northern gannet during breeding; medium densities of European storm petrel during breeding, great skua during winter, lesser black-backed gull during breeding and winter; and medium to high densities of Cory's shearwater during summer (Kober, et al. 2010).

Implications of the site not being designated:

- This rMCZ contributes the largest area of subtidal mud out of all of the rMCZs and existing MPAs within the regional MCZ project area, the Western Channel and Celtic Sea region and the whole MCZ project area making it the most significant contributor to achieving the guidelines for this broad-scale habitat. It is especially important because of the shortfall in meeting guidelines for subtidal mud in other regional MCZ project areas. If this site was not designated, nor another equivalent area put forward the implication is failure to achieve the adequacy guideline for subtidal mud and the area of subtidal mud protected within this regional MCZ project area being reduced by almost a third.

Site name: FS 09 South of Celtic Deep rMCZ (Finding Sanctuary) (JNCC)

Table 145 An overview of features proposed for designation within the South of Celtic Deep rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	Only a small proportion of this feature is captured in existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover		Only a small proportion of this feature is captured in existing MPAs	

A5.3 Subtidal mud * 2	BSH								
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 3					
Appropriate boundary				✓					
Areas of additional ecological importance				✓ * 4					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ The adequacy target for subtidal coarse sediment has only just been achieved within this regional MCZ project area.
- ² The conservation objective summary table in the Finding Sanctuary Final Recommendations report, provides a conservation objective for the broad-scale habitat subtidal mud in this rMCZ but this is not mentioned in the site selection assessment document. Given that Finding Sanctuary followed the approach that everything within a site was given a conservation objective, we have considered this omission as an oversight and have assumed that this feature was meant as a feature for designation. This feature was not put forward for consideration in the June QA and no vulnerability assessment has been provided for this feature. We examined the spatial extent of the feature in GIS and given the wider distribution beyond the site boundary, it is unlikely that achievement of any conservation objective could be realistically assessed; we therefore advise that subtidal mud in this site is not listed as a feature for designation.

Suggested amendments:

- We advise that subtidal mud is not taken forward as a feature for designation within this rMCZ.

Summary of site benefits:

- This rMCZ contributes towards meeting adequacy and replication guidelines of three broad-scale habitats, one of which is only just achieving the adequacy target set. This site makes a significant contribution towards achieving the adequacy target for subtidal coarse sediment. This site also contributes to the representation of subtidal sand within MPAs in the regional MCZ project area and subtidal coarse sediment within MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of these habitats are currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ³ There is a sharp-edged glacial sand feature within the site, although this is not a primary reason for the proposal for the site as an rMCZ.

- This rMCZ hosts a wide range of soft sediment broad-scale habitats from mud to coarse sediment habitats.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - There are records of sightings of basking sharks (Marine Conservation Society and the Shark Trust data) within this rMCZ, and there are also nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - This rMCZ falls within the foraging radii for seabird colonies (RSPB data). An analysis of the numbers and distribution of seabirds found that there are low to medium densities of great black-backed gull and common guillemot during winter; medium densities of northern gannet throughout the year, lesser black-backed gull during breeding and black-legged kittiwake during winter; and medium to high densities of lesser black-backed gull during winter (Kober, et al. 2010).

Implications of the site not being designated:

- The South of Celtic Deep rMCZ makes a significant contribution towards achieving the adequacy guidelines for subtidal coarse sediment within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.

Site name: FS 30 South East of Falmouth rMCZ (Finding Sanctuary) (JNCC)

Table 146 An overview of features proposed for designation within the South-East of Falmouth and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	Only a small proportion of this feature is captured in existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea
A5.2 Subtidal sand * 2	BSH								

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	✓ * ³
Areas of additional ecological importance	✓ * ⁴
Overlaps with existing MPAs	None

Additional comments:

- ¹ The adequacy target for subtidal coarse sediment has only just been achieved within this regional MCZ project area.
- ² Finding Sanctuary has recommended a recover objective for subtidal sand in South East of Falmouth. We advised Finding Sanctuary in June 2011 that a conservation objective is not appropriate for subtidal sand in this site. Given the wider distribution beyond the respective boundaries, it is unlikely that a conservation objective would be achievable. No additional information has become available which would indicate our previous advice is no longer appropriate, we therefore advise subtidal sand is not listed for designation in this site.
- ³ The boundary of the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. This rMCZ only just meets the minimum size guidelines for broad-scale habitats and so no margin of protection has been considered.

Suggested amendments:

- We do not agree the inclusion of subtidal sand as a feature for designation within this rMCZ and suggest that it is not included if this rMCZ is designated (see comment above).
- The boundary of the rMCZ may need refining to include a suitable margin of protection to follow ENG guidelines on boundaries.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of one broad-scale habitat, which is only just achieving the adequacy target set. It is for this reason that this site makes a significant contribution towards achieving the adequacy target for subtidal coarse sediment. This site also contributes to the representation of subtidal coarse sediment within MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of these habitats are currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ is located in an area of high productivity containing a seasonal thermal front (Lieberknecht, et al. 2011). There are records for sightings of basking sharks (Marine Conservation Society and the Shark Trust data) and for marine mammals (Whale and Dolphin Conservation Society data). There are also nursery grounds for a number of fish species within the local area (Ellis, et al. 2012).

- This rMCZ falls within the foraging radii for certain seabird species (RSPB data). An analysis of the numbers and distribution of seabirds found that there are low to medium densities of seabirds in general during winter, of European storm petrel during breeding, of lesser black-backed gull during breeding and winter, of great black-backed gull during winter and of common guillemot during winter. There are medium densities of northern gannets during winter (Kober, et al. 2010).

Implications of the site not being designated:

- As the adequacy target for subtidal coarse sediment is only just being achieved, the South East of Falmouth rMCZ makes a significant contribution towards achieving the guideline for this broad-scale habitat within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.

Site name: FS 13 South of the Isles of Scilly rMCZ (Finding Sanctuary) (JNCC)

Table 147 An overview of features proposed for designation within the South of the Isles of Scilly rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓	None	Recover	The adequacy target for this feature has only just been achieved. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	Only a small proportion of this feature is captured in existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea
A5.2 Subtidal sand	BSH	✓	✓	✓ * 2	None	Recover		Only a small proportion of this feature is captured in existing MPAs	

Site considerations	
Connectivity	✓ * ³
Geological/Geomorphological features of interest	✓ * ⁴
Appropriate boundary	✓
Areas of additional ecological importance	✓ * ⁵
Overlaps with existing MPAs	None

Additional comments:

- ¹ The adequacy target for subtidal coarse sediment has only just been achieved.
- ² The site is viable for the features that are proposed for designation, however the patch of subtidal sand is very small.
- ³ The regional MCZ project stated that this site improves connectivity for sediment habitats (Lieberknecht, et al. 2011) .

Suggested amendments:

- None.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of two broad-scale habitats, one of which is only just achieving the adequacy target set. It is for this reason that this site makes a significant contribution towards achieving the adequacy target for subtidal coarse sediment, This site also contributes to the representation of subtidal sand within MPAs in the regional MCZ project area and subtidal coarse sediment within MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of these habitats are currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ⁴ Although this rMCZ does not coincide with any of the geological or geomorphological features of interest listed in the ENG, and is not proposed for geomorphology directly, it does contain a sharp-edged sand patch showing transverse-bedform features.
- ⁵ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ is located in an area containing a seasonal thermal front where there are records for sightings of basking sharks (Marine Conservation Society and the Shark Trust data) and there are nursery and spawning grounds a number of fish species within the local area (Ellis, et al. 2012).
 - This rMCZ falls within the foraging radii for certain seabird species (RSPB data). An analysis of the numbers and distribution of seabirds found that the area lies north of a high density area of great skua during winter; low to medium densities of northern gannet during winter, European storm petrel during breeding, and black-legged kittiwake during winter; and medium densities of seabirds in general during winter, of lesser black-backed gull during breeding and great black-backed gull during winter (Kober, et al. 2010).

Implications of the site not being designated:

- As the adequacy target for subtidal coarse sediment is only just being achieved, the South of the Isles of Scilly rMCZ makes a significant contribution towards achieving the guideline for this broad-scale habitat within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.

Site name: FS 03 South West Deeps East rMCZ (Finding Sanctuary) (JNCC)

Table 148 An overview of features proposed for designation within the South-West Deeps East rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target. Of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal coarse sediment. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area.	Only a small proportion of this feature is captured in existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in CP2 region 4. Out of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal coarse sediment in the Western Channel and Celtic Sea regional sea.

<p>A5.2 Subtidal sand</p>	<p>BSH</p>	<p>✓</p>	<p>✓</p>	<p>✓</p>	<p>None</p>	<p><i>Maintain</i></p>	<p>Of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal sand. This site makes a significant contribution towards the lower level target for this feature within the regional MCZ project area</p>	<p>Only a small proportion of this feature is captured in existing MPAs.</p>	<p>Out of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal sand in the CP2 region. Out of all of the rMCZs, this site contributes the largest area of subtidal sands in the whole MCZ project area</p>	
<p>A6 Deep-sea bed</p>	<p>BSH</p>	<p>✓ * 2</p>	<p>✓ * 3</p>	<p>✓</p>	<p>None</p>	<p>Recover</p>		<p>This feature is not protected within existing MPAs. This feature has limited distribution. This rMCZ is one of only two examples of this habitat proposed for designation</p>	<p>This feature is not protected within existing MPAs. This feature has limited distribution in the whole MCZ project area. This rMCZ is one of only two examples of this habitat proposed for designation within the whole MCZ project area and the Western Channel and Celtic Sea regional sea</p>	
<p>Site considerations</p>										
<p>Connectivity</p>				<p>✓ * 4</p>						
<p>Geological/Geomorphological features of interest</p>				<p>Marine process feature - Celtic Sea Relict Sandbanks * 5</p>						
<p>Appropriate boundary</p>				<p>✓</p>						

Areas of additional ecological importance	✓ * ⁶
Overlaps with existing MPAs	None

Additional comments:

- ¹ The adequacy target for subtidal coarse sediment has only just been achieved within this regional MCZ project area.
- ^{2,3,4} No replication or adequacy guidelines were set for the habitat deep-sea bed because it has a limited distribution. There are two replicates for this feature within this regional MCZ project area and this is what is required by the ENG for other broad-scale habitats. Connectivity is not applicable to EUNIS Level 2 broad-scale habitat deep-sea bed due to the limited distribution of these habitats in the whole MCZ project area.

Suggested amendments:

- None.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of three broad-scale habitats, one of which is only just achieving the adequacy target set. This site contributes the largest area of subtidal sand and subtidal coarse sediment out of all MCZs and existing MPAs within the regional MCZ project area and the Western Channel and Celtic Sea region. It is for this reason that this site makes a very significant contribution towards achieving the adequacy guidelines for these two features. This site also contributes the second largest area of subtidal sands within MCZs within the whole MCZ project area. This site also contributes to the representation of subtidal sand within MPAs in the regional MCZ project area and subtidal coarse sediment and subtidal mud within MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of these habitats are currently protected. This site also represents only one of two sites within the regional MCZ project area, Western Channel and Celtic Sea region and the whole MCZ project area that would provide protection for the habitat deep-sea bed, a feature with limited distribution in the whole MCZ project area, which is not currently protected in existing MPAs in the whole MCZ project area. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ⁵ This site has been proposed for its geological/geomorphological significance to provide protection for the Celtic Sea Relict Sandbanks, a marine process feature. These are the largest known features of their kind in the world, The enigmatic Celtic Banks are among the deepest and largest shelf sand ridges of their type. Further study into their geomorphology will help elucidate their nature and the timing of their origin.
- The site depth ranges from 120m to over 1000m where the continental shelf breaks. On the continental shelf over half of the site is dominated by mega-ripples with a depth range between 120 and 180m. The far south-west of the site intersects with an area of continental shelf break. This site is only one of two rMCZs within the regional MCZ project area as well as the whole MCZ project area with a very large depth range (100–1000m).
- ⁶ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:

- This rMCZ overlaps with an area of high benthic species biodiversity (Langmead, et al. 2010). The south-west of this rMCZ overlaps with a seasonal thermal front and there are also nursery and spawning grounds for a number fish species within the local area (Ellis, et al. 2012).
- This rMCZ falls within the foraging radii for certain seabird species (RSPB data). An analysis of the numbers and distribution of seabirds found that there are low to medium densities of lesser black-backed gull during breeding; medium densities of pomarine skua in spring and autumn, and of northern gannets during winter. There is also possibly medium to high densities of Cory's shearwater during summer in the south-west of the area, European storm petrel during breeding in the north-east and the south of the area, and great skua during winter (Kober, et al. 2010).

Implications of the site not being designated:

- The South West Deeps East rMCZ makes a significant contribution towards achieving the adequacy guidelines for subtidal coarse sediment and subtidal sand within the regional MCZ project area. It contributes the largest area of subtidal sand and subtidal coarse sediment out of all of the rMCZs and existing MPAs within the regional MCZ project area, and the CP2 region making it a significant contributor to achieving the guidelines for this broad-scale habitat. It is especially important because currently only a small amount of this habitat is protected within existing MPAs. Therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve these adequacy guidelines and the area of subtidal coarse sediment protected within this regional MCZ project recommendations which is only just being achieved would be reduced by almost a third and the amount of subtidal sand protected within this regional MCZ project recommendations would be reduced by a half. In addition, although no replication and adequacy targets were set for deep-sea bed, failure to designate this site would also reduce the area of this rare habitat within the recommendations.
- Finally, this rMCZ contains the geological feature known as the Celtic Sea Relict Sandbanks which has been proposed as a feature for designation. If this rMCZ was not progressed through to designation the opportunity would be missed to protect these giant sandbanks which are the largest of their kind known in the world.

Site name: FS 02 South West Deeps West rMCZ (Finding Sanctuary) (JNCC)

Table 149 An overview of features proposed for designation within the South-West Deeps West rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area	Only a small proportion of this feature is captured in existing MPAs	Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover	Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of subtidal sand	Only a small proportion of this feature is captured in existing MPAs	Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of subtidal sand in the Western Channel and Celtic Sea Regional Sea

A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				Marine process feature - Celtic Sea Relict Sandbanks * 2					
Appropriate boundary				✓					
Areas of additional ecological importance				✓ * 3					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ The adequacy target for subtidal coarse sediment has only just been achieved within this regional MCZ project area.

Suggested amendments:

- None.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of three broad-scale habitats, one of which is only just achieving the adequacy target set. This site makes a very significant contribution towards achieving the adequacy guidelines for subtidal coarse sediment, This site contributes the second largest area of subtidal sand out of all MCZs and existing MPAs within the regional MCZ project area and the Western Channel and Celtic Sea region. This site also contributes to the representation of subtidal sand within MPAs in the regional MCZ project area and subtidal coarse sediment within MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of these habitats are currently protected. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ² This site has been proposed for its geological/geomorphological significance to provide protection for the Celtic Sea Relict Sandbanks, a marine process feature, which was listed as a feature of interest in the ENG. These are the largest known features of their kind in the world, The enigmatic Celtic Banks are among the deepest and largest shelf sand ridges of their type. Further study into their geomorphology will help elucidate their nature and the timing of their origin.
- ³ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:

- The regional MCZ project recommendations state that stakeholders had highlighted this area as important for summer foraging seabirds (Lieberknecht, et al. 2011) , and JNCC seabird distribution maps suggest there are shearwaters, storm-petrels, skuas and gulls in the area (Kober, et al. 2010). An analysis of the numbers and distribution of seabirds found that there are low to medium densities of Arctic skua during breeding; medium densities of great skua during breeding and winter, and lesser black-backed gull during breeding; medium to high densities of European storm petrel during breeding; and high densities of Cory's shearwater during summer in the south-east of the area (Kober, et al. 2010).
- There are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).

Implications:

- The South West Deeps West rMCZ makes a significant contribution towards achieving the adequacy guidelines for subtidal coarse sediment within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.
- This rMCZ contributes the second largest area of subtidal sand out of all of the rMCZs and existing MPAs within the regional MCZ project area, and the CP2 region making it a significant contributor to achieving the guidelines for this broad-scale habitat. It is especially important because currently only a small amount of this habitat is protected within existing MPAs. Therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.
- As this rMCZ has the geological feature known as the Celtic Sea Relict Sandbanks as a feature for designation, if this rMCZ was not progressed through to designation the opportunity would be missed to protect these giant sandbanks which are the largest of their kind known in the world.

Site name: FS 01 The Canyons rMCZ and FS RA 01 The Canyons recommended reference area (Finding Sanctuary) (JNCC)

Table 150 An overview of features proposed for designation within The Canyons rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ project level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Cold-water coral reef	FOCI	✓ * 1	✓ * 1	✓	None	Recover		This is the only site proposed for this feature within the region. This feature is not protected within existing MPAs. This feature has limited distribution.	This is a BAP and OSPAR habitat. This is the only site recommended for this feature within the Western Channel and Celtic Sea Regional Sea and whole MCZ project area. This feature has limited distribution in the whole MCZ project area.
A5.1 Subtidal coarse sediment * 3									

A5.2 Subtidal sand * 3									
A6 Deep-sea bed	BSH	✓ * 2	✓ * 2	✓	None	Recover	Out of all of the rMCZ and existing MCZs this rMCZ contributes the largest area of deep-sea bed.	This feature is not protected within existing MPAs. This feature has limited distribution. This rMCZ one of only two examples of this habitat proposed for designation	This feature is not protected within existing MPAs and has limited distribution in the whole MCZ project area. This rMCZ is one of only two examples of this habitat proposed for designation within the whole MCZ project area and the Western Channel and Celtic Sea regional sea.
Site considerations									
Connectivity				✓ * 4					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 5					
Areas of additional ecological importance				✓ * 6					
Overlaps with existing MPAs				None					

Table 151 An overview of features proposed for designation within The Canyons recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Cold-water coral reef	FOCI	✓	Recover to reference condition
A6 Deep-sea bed	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary		✓ * ⁷	

Additional comments:

- ¹ There is only one example for cold-water coral reefs in the whole MCZ project area because it has limited distribution and only occurs in the far south-west of the MCZ project area.
- ² No replication or adequacy guidelines were set for the habitat deep-sea bed because it has a limited distribution. There are two replicates for this feature within this regional MCZ project area and this is what is required by the ENG for other broad-scale habitats.
- ³ Finding Sanctuary has put forward two features in The Canyons site in the final recommendation for which we had advised in June that a conservation objective was not appropriate. In June, we advised it would not be appropriate for either of these two features; subtidal coarse sediment and subtidal sand to be listed for designation because they were both very small slivers of the seafloor within the site boundary and so achievement of any conservation objective could not be realistically assessed. Regardless, Finding Sanctuary decided to put both forward for designation in the final recommendation. No further evidence has been provided which would indicate the June advice is no longer appropriate; we therefore reiterate our June advice here.
- ⁴ Connectivity is not applicable to EUNIS Level 2 broad-scale habitat deep-sea bed due to the limited distribution of these habitats in the whole MCZ project area.
- ⁵ The boundary of the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. As this site has been proposed for broad-scale habitats and FOCI it has been drawn around a discrete area of extensive broad-scale habitat and captures the FOCI allowing for a margin of protection.
- ⁷ The recommended reference area boundary is also in line with the ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. A margin of protection has also been provided between the cold-water coral FOCI and the recommended reference area boundary.

Suggested amendments:

- We do not support the inclusion of subtidal coarse sediment and subtidal sand as features for designation and suggest that these are not included as features for designation if this rMCZ is designated (see comment above).

- The rMCZ boundary could be extended in the north-east to incorporate the complete canyon feature. Also, some minor adjustments will be needed around the south-east margin to eliminate the patches of subtidal sand and subtidal coarse sediment depending on the evidence available.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of one FOCI and one broad-scale habitat. This site contributes the largest area of deep-sea bed out of all of the rMCZs and existing MPAs within the regional MCZ project area, the Western Channel and Celtic Sea regional sea, and for the whole MCZ project area. It also represents only one of two sites within whole MCZ project area that are recommended for the habitat deep-sea bed as feature for designation. This feature has limited distribution in the whole MCZ project area, which is not currently protected in existing MPAs in the whole MCZ project area. It also complies with the viability guidelines.
- It is also the only site within the regional MCZ project area, Western Channel and Celtic Sea region and the whole MCZ project area that would provide protection for the FOCI cold-water coral reefs, a BAP and OSPAR habitat. This feature has limited distribution in the whole MCZ project area, and is not currently protected in existing MPAs in the whole MCZ project area.
- There is good evidence for the presence of a wide range of habitats within the deep-sea bed broad-scale habitat which have been mapped by JNCC, including communities of deep-sea corals, deep circalittoral coarse sediment, deep-sea bedrock, biogenic gravel, mixed substrata, mud and sand. This site is only one of two rMCZs within the regional MCZ project area as well as the whole MCZ project area with a very large depth range (200–2000m). This range of depths creates heterogeneous seafloor topography within the site.
- ⁶ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - The regional MCZ project recommendations state that there is a high summer seasonal front which intersects with the rMCZ and there are higher than average aggregations of cetaceans and seabirds (Lieberknecht, et al. 2011) .
 - There are also spawning and nursery grounds for a number of fish species within the local area (Ellis, et al. 2012).
 - An analysis of the numbers and distribution of seabirds found that there are low to medium densities of lesser black-backed gull during breeding; medium densities of European storm petrel during breeding, and black-legged kittiwake during winter; medium to high densities of northern gannet during winter, Cory's shearwater during summer, and great skua during winter and breeding (Kober, et al. 2010).

Implications of the site not being designated:

- The Canyons rMCZ is particularly important in terms of its deep-sea bed and cold-water coral reefs. This area of deep-sea bed is one of only two areas proposed with this as a feature for designation in the whole MCZ project area, and it contains the largest and most significant area of this habitat which includes a large canyon feature. Although no replication and adequacy targets were set for deep-sea bed, failure to designate this site would significantly reduce the area of this rare habitat within the recommendations.
- In addition to this, this is the only known location within the whole MCZ project area which contains live cold-water coral reefs, therefore if this site was not taken forward for designation there would be no examples of cold-water coral reefs protected.

Site name: FS 12 Western Channel rMCZ (Finding Sanctuary) (JNCC)

Table 152 An overview of features proposed for designation within the Western Channel rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-activity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.2 Moderate energy circalittoral rock	BSH	✓	✓ * 1	✓	None	Recover	<p>This BSH is currently only reaching the minimum adequacy target. Out of all of the rMCZs, this site contributes the second largest area of moderate energy circalittoral rock.</p> <p>This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area</p>		

<p>A5.1 Subtidal coarse sediment</p>	<p>BSH</p>	<p>✓</p>	<p>✓ * 2</p>	<p>✓</p>	<p>None</p>	<p>Recover</p>	<p>This BSH is currently only reaching the minimum adequacy target. Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of subtidal coarse sediment. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area</p>	<p>Only a small proportion of this feature is captured in existing MPAs</p>	<p>Only a small proportion of this BSH is currently protected within existing MPAs in the Western Channel and Celtic Sea Regional Sea</p>
<p>A5.4 Subtidal mixed sediments</p>	<p>BSH</p>	<p>✓</p>	<p>✓</p>	<p>✓</p>	<p>None</p>	<p>Recover</p>	<p>Out of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal mixed sediment. This site makes a significant contribution towards meeting the lower level target for this feature within the regional MCZ project area</p>		

Site considerations	
Connectivity	✓ * ³
Geological/Geomorphological features of interest	✓ * ⁴
Appropriate boundary	✓
Areas of Additional Ecological Importance	✓ * ⁵
Overlaps with existing MPAs	None

Additional comments:

- ^{1,2} The adequacy guidelines for subtidal coarse sediment and moderate energy circalittoral rock have only just been achieved within this regional MCZ project area.
- ³ This site is essential for connectivity between EUNIS Level 2 sublittoral sediments and circalittoral rock habitats in the offshore area within this regional MCZ project area and that of Balanced Seas.

Suggested amendments:

- None.

Summary of site benefits:

- This rMCZ contributes to meeting adequacy and replication guidelines of three broad-scale habitats, two of which are only just achieving the adequacy guidelines set. It contributes the largest area of subtidal mixed sediment and second largest areas of subtidal coarse sediment out of all of the rMCZs and existing MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats and complies with the viability guidelines.
- This site makes a very significant contribution towards achieving the adequacy guidelines for moderate energy circalittoral rock, subtidal mixed sediment and subtidal coarse sediment. This site also contributes to the representation of subtidal sand within MPAs in the regional MCZ project area and subtidal coarse sediment within MPAs in the regional MCZ project area and the Western Channel and Celtic Sea region, where only a small proportion of these habitats are currently protected. The importance of this site in relation to meeting adequacy guidelines for moderate energy circalittoral rock is increased if our advice is followed to remove this feature from designation in Greater Haig Fras rMCZ.
- ⁴ Although this rMCZ is not proposed directly for its geological or geomorphological features of interest, it is located in the middle of a large sandwave field.
- ⁵ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ overlaps with an area of high benthic species biodiversity (Langmead, et al. 2010).

- It is also located in an area containing a seasonal thermal front and there are records for sightings of basking sharks (Marine Conservation Society and the Shark Trust data) and marine mammals (Whale and Dolphin Conservation Society data). There are also nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).
- The rMCZ falls within the foraging radii for certain seabird species (RSPB data). An analysis of the numbers and distribution of seabirds found that there are medium densities of seabirds in general, of northern gannet, great skua, herring gull during winter, and of black-legged kittiwake during winter in the east of the area; and low to medium densities of northern gannet during breeding (Kober, et al. 2010).

Implications of the site not being designated:

- The Western Channel rMCZ makes a significant contribution towards achieving the adequacy guidelines for moderate energy circalittoral rock, subtidal coarse sediment and subtidal mixed sediment within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve these adequacy guidelines.
- This rMCZ is essential for connectivity in the network especially between the offshore area within this regional MCZ project area and that of Balanced Seas and so if this site is not designated, connectivity between the offshore sites within these regional MCZ project areas will be lost..

Site name: rMCZ FS 36 Cape Bank (and rRA Cape Bank) (Finding Sanctuary) (Natural England lead).

Table 153 An overview of features proposed for designation within Cape Bank and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Recover			
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target	This BSH is currently only reaching the minimum adequacy target	
Spiny lobster <i>Palinurus elephas</i>	FOCI Species	✓ * 2	✓	✓	None	Recover	This FOCI is currently only reaching the minimum replication target.	This feature is not protected in any existing MPAs within the SW region.	This feature is not protected in existing MPAs (in Western Channel and Celtic Sea) - Region 4.
Site considerations									
Connectivity				✓ * 3					
Geological/Geomorphological features of interest				✓ * 5					
Appropriate boundary				✓					
Areas of additional ecological importance				✓ * 4					
Overlaps with existing MPAs				✓ * 6					

Table 154 rRA FS 12 Cape Bank within rMCZ 36 Cape Banks. An overview of features proposed for designation within rRA Cape Banks and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative..

ENG Feature	Representativity	Viability	Recommended conservation objective
A4.1 High energy circalittoral rock * ⁷	BSH	✓	Recover to reference condition
A3.1 High energy infralittoral rock * ⁷	BSH	✓	Recover to reference condition
A4.2 Moderate energy circalittoral rock * ⁷	BSH	✓	Recover to reference condition
A3.2 Moderate energy infralittoral rock * ^{7, 8}	BSH	✓	Recover to reference condition
A5.1 Subtidal coarse sediment	BSH	✓	Recover to reference condition
Spiny lobster <i>Palinurus elephas</i> * ²	FOCI Species	✓	Recover to reference condition
Pink sea-fan <i>Eunicella verrucosa</i> * ⁹	FOCI Species	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ¹ The adequacy target for BSH subtidal coarse sediment is only reaching the minimum target. This site is needed to meet the lower level target for this feature within the regional MCZ project area.
- Natural England survey work (Natural England 2010c) shows the FOCI habitat ‘Fragile sponge and anthozoan communities on subtidal rocky habitats’ is also present in the area (within the cSAC). These may also be present outside the cSAC boundary, where there is additional rocky habitat, in which case the rMCZ would contribute additional protection (SAD in (Lieberknecht, et al. 2011)).
- ² There is evidence that *Palinurus elephas* is in unfavourable condition in all SW waters (Goñi and Latrouite 2005). It has a limited distribution nationally, and is not protected in any existing MPAs within the SW region, therefore the MCZ designation is needed to meet the minimum ENG target for replication.
- ³ This site is needed to improve connectivity of the Finding Sanctuary Regional Project Area, and more specifically for sediment habitats.
- ⁶ The site is within the Land’s End and Cape Bank cSAC.

Additional comments for rRA 12:

- **rRA 12:** ⁷ This feature is also present in the cSAC, and evidence shows it to be of high conservation value. (Natural England 2010c)
- **rRA 12:** ⁸ This is the only replicate of BSH Moderate Energy Infralittoral rock within the recommendations; however the feature is also protected by the Land’s End and Cape Bank cSAC.

- **rRA 12:** This is the only reference area proposed for this feature in the national network., and the feature has a limited national distribution.
- **rRA 12:** The reef is characterised by high biodiversity tide-swept communities such as sponges, faunal and algal turfs and crustose communities (SAD in (Lieberknecht, et al. 2011)).
- **rRA 12:** This site has a strong evidence base for the reef features, due to survey work undertaken by Natural England (Natural England 2010c).

Summary of site benefits:

- Cape Bank rMCZ encompasses Land's End and Cape Bank cSAC which protects additional features to the rMCZ.
- ⁴ The rMCZ and rRA are an area of productive tidal fronts. Local group feedback indicates that this area is an area of additional ecological importance for the pelagic realm due to the frontal activity, and used by summer foraging birds (SAD in (Lieberknecht, et al. 2011)), and other mobile species.
- There are records of sightings of basking sharks (Marine Conservation Society and Shark Trust data). This rMCZ falls within the foraging radii for seabird colonies (RSPB data) and there are also nursery and spawning grounds for a number of fish species (Ellis, et al. 2012).
- ⁵ Although this site does not have any primary geological or geomorphological features of interest, the rMCZ does host some secondary features such as the maximum lateral extent of the ice during the last glacial period and contains topographic features such as seabed mounds or pinnacles.
- *Palinurus elephas* is a commercially important species, taken both as a targeted species and as a by-catch from other fisheries. Intensive exploitation has contributed to a very substantial decline in population size since the 1970s. The protection of this species could have a significant contribution towards ecosystems services for fisheries, although it is likely that any protection measures would need to be at a wider scale than MCZ boundaries due to the mobile nature of this species (Fletcher, et al. 2012).
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).
- Infralittoral rock habitat is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).

Implications of the site not being designated:

- *Palinurus elephas*: This feature is not protected in any existing MPAs within the SW region, therefore, MCZ / rRA designation is needed to meet the minimum ENG guidelines for replication.
- If this site was not taken forward for designation the minimum adequacy target for subtidal coarse sediment would not be met.
- **rRA 12**: If this site was not taken forward for designation there would be no examples of moderate energy infralittoral rock within the region, and no examples of *Palinurus elephas* or *Eunicella verrucosa*, protected to reference condition in the national network.

Site name: rMCZ 16 South Dorset (and rRA 04 South Dorset) (Finding Sanctuary) (Natural England lead)

Table 155 An overview of features proposed for designation within South Dorset and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.1 High energy circalittoral rock	BSH	✓	✓	✓	None	Recover			
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Recover			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
A5.4 Subtidal mixed sediment	BSH	✓	✓ * 1	✓	None	Maintain	Site needed to meet minimum adequacy within the regional MCZ project.		
Subtidal chalk	FOCI Habitat	✓ * 2	✓	✓ * 3	Replication has not been met in the region*2	Recover	This is the only example of subtidal chalk within the regional project.		UK List of Priority Species and Habitats

Site considerations	
Connectivity	✓ * 4
Geological/Geomorphological features of interest	None
Appropriate boundary	✓
Areas of additional ecological importance	None
Overlaps with existing MPAs	None

Table 156 rRA 04 South Dorset within rMCZ 16 (Finding Sanctuary) (Natural England lead). An overview of features proposed for designation within rRA South Dorset area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative..

ENG Feature	Representativity	Viability	Recommended conservation objective
A4.1 High energy circalittoral rock	BSH	✓	Recover to reference condition
A4.2 Moderate energy circalittoral rock	BSH	✓	Recover to reference condition
A5.4 Subtidal mixed sediment	BSH	✓	Recover to reference condition
Subtidal chalk	FOCI Habitat	✓ * 3	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ¹ This site is needed to meet the lower level target for subtidal mixed sediment within the regional MCZ project.
- ² This is the only example of subtidal chalk within the regional project and so does not meet the replication target. However this feature is very limited in the region and so cannot have more replicates.
- ³ No area data for subtidal chalk, only point data (four separate points in a line) so, viability assessment based on ENG minimum viable patch diameter measured from centre of point record, as no information on feature extent available.
- ⁴ This site is important in providing connectivity between the Finding Sanctuary and the Balanced Seas regional projects, particularly with regards to the subtidal chalk habitat.

Summary of site benefits:

- This is the only example of subtidal chalk within the regional project (SAD in (Lieberknecht, et al. 2011)). Only one further example is listed in existing MPAs within the Finding Sanctuary region. Subtidal chalk is listed on the UK List of Priority Species and Habitats.
- Provides second largest quantity of subtidal mixed sediments in the Finding Sanctuary region.
- This site is important in providing connectivity between the Finding Sanctuary and the Balanced Seas regional projects, particularly with regards to the subtidal chalk habitat.
- Only a small proportion (<1%) of BSHs subtidal coarse sediment and subtidal sand are currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of these features in this region.
- Anecdotal evidence to suggest this area is important as a wintering ground for both species of seahorses, especially *Hippocampus hippocampus*. (SAD in (Lieberknecht, et al. 2011)).
- Finding Sanctuary describe that this area intersects with an area of higher than average benthic habitat diversity, and was highlighted as an area of high conservation utility within an analysis using the Marxan GIS tool, carried out for the Inshore Working Group in the summer of 2010. (SAD in (Lieberknecht, et al. 2011)).
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Subtidal chalk is often bored by bivalve molluscs, such as the common paddock (*Pholas dactylus*) and empty bore holes provide habitat for a range of crevice dwelling animals. In some examples paddock holes have created particularly species rich habitats used by a range of invertebrates, shellfish (crabs), and worm species (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation the amount of subtidal mixed sediment protected would not meet the ENG adequacy target.
- If this site was not taken forward for designation subtidal chalk would not be represented at all within the regional project and there is only one example in existing MPAs.
- This site contains a reference area within the boundaries of the rMCZ. If this site was not taken forward we would be losing two sites from the network, both the rMCZ and recommended reference area. The two sites work together to provide protection to the important habitats.

Site name: rRA 09 Mouth of the Yealm (Finding Sanctuary) (Natural England lead)

Table 157 An overview of features proposed for designation within the Mouth of the Yealm recommended reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓	✓	X * 1	Viability target not met	Recover to reference condition			
A2.1 Intertidal coarse sediment	BSH	✓	✓	X * 1	Viability target not met	Recover to reference condition			
A1.2 Moderate energy intertidal rock	BSH	✓	✓	X * 1	Viability target not met	Recover to reference condition			
Estuarine rocky habitats	FOCI Habitat	✓ * 3	X	X * 2, 4	Viability target not met, patch less than 0.5km minimum diameter	Recover to reference condition			BAP – in decline. Contains key species. Functional habitat.
Seagrass beds	FOCI Habitat	✓	X	X * 2, 4	Viability not met, patch less than 0.5km minimum diameter	Recover to reference condition			BAP and OSPAR

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	✓
Areas of Additional Ecological Importance	✓ * ⁵
Overlaps with existing MPAs	✓ * ⁶

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for all the intertidal BSH. In some cases, viability in the intertidal has been considered where this is met in linear length alone, or where the feature is entirely within the site, however this site is particularly small, so is considered unviable.
- ² The Mouth of the Yealm recommended reference area only covers the intertidal. Therefore the subtidal features estuarine rocky habitats and seagrass beds should not technically be included in the site.
- ³ SAP assessment of the FS Final Recommendations queried the identification of ‘Estuarine Rocky Habitats’ in this recommended reference area.
- ⁴ Viability for the FOCI features Estuarine Rocky Habitats, and Seagrass Beds is dependent on a patch size of 0.5km² which is not met at this site.
- ⁵ The site provides an excellent example of rich rocky shore communities. Aesthetically it is relatively unspoilt; and is a valuable asset to the surrounding landscape.
- ⁶ The site overlaps the boundary of the Tamar Estuaries complex SAC (features: large shallow inlets and bays, estuaries and subtidal sandbanks, including seagrass beds), the boundary of the Wembury Point SSSI (relevant features: intertidal reefs and intertidal sediments) and the boundary of the Yealm Estuary SSSI (relevant features: intertidal sediment and intertidal rocky shores)
- Seagrass beds recently found just off the site in the subtidal area (Natural England local adviser pers comm).

Suggested amendments:

- ² The Mouth of the Yealm recommended reference area only covers the intertidal. **Therefore the subtidal features estuarine rocky habitats and seagrass beds should not technically be included in the site.**

Summary of site benefits:

- Due to the fact that this recommended reference area is encompassed within a wider, established MPA, it has an increased likelihood of achieving its conservation objectives of recovering to reference condition.
- The habitat within the recommended reference area has not been impacted by local anthropogenic activity due to very limited access and the overlap with existing designations, therefore it is even more likely to achieve reference condition (Fletcher, et al. 2012).

- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients (Fletcher, et al. 2012).

Implications of the site not being designated:

- No implications.

Site name: rRA FS 10 The Fal recommended Reference Area (Finding Sanctuary) (Natural England lead)

Table 158 An overview of features proposed for designation within The Fal and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative consideration s at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓	X * 3	This site has not met the ENG target for viability	Recover to reference condition			
A5.5 Subtidal macrophyte-dominated sediment	BSH	✓	✓	X * 3	This site has not met the ENG target for viability	Recover to reference condition		Only national example for reference condition.	Only national example for reference condition.
A5.2 Subtidal sand	BSH	✓	✓	X * 3	This site has not met the ENG target for viability	Recover to reference condition			
A2.1 Intertidal coarse sediment	BSH	✓	✓	X * 3	This site has not met the ENG target for viability	Recover to reference condition			

A1.3 Low energy intertidal rock	BSH	✓	✓	X * 3	This site has not met the ENG target for viability	Recover to reference condition		Only regional example for reference condition.	
Maerl beds	FOCI Habitat	X * 2	X	✓	Only two replicates within regional network	Recover to reference condition	Only regional example listed for reference condition.	Rare/limited distribution at MCZ and UK level.	Rare/limited distribution at MCZ and UK level.
Seagrass beds	FOCI Habitat	✓	✓	✓	None	Recover to reference condition		Limited distribution at MCZ and UK level. This habitat is additionally important for the supported species and its wider ecological role (nursery area for juvenile species, stabilising sediments).	Limited distribution at MCZ and UK level. UK BAP Priority habitat. OSPAR List of Threatened and/or Declining Species and Habitats.
Coral maerl <i>Lithothamnion corallioides</i>	FOCI Species	X * 2	X	✓	Only replicate within national network	Recover to reference condition	This has not met ENG guidelines for replication, however, it cannot be met in this region as the feature is not present in any other locations.	Rare/limited distribution at MCZ and UK level. Only national example for reference condition.	Rare/limited distribution at MCZ and UK level. Only national example for reference condition.
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Recover to reference condition		Only regional example for reference condition.	

<p>Common maerl <i>Phymatolithon calcareum</i></p>	<p>FOCI Species</p>	<p>✓ * 1</p>	<p>✓</p>	<p>✓</p>	<p>None</p>	<p>Recover to reference condition</p>	<p>This has not met ENG guidelines for replication, however, it cannot be met in this region as the feature is not present in any other locations.</p>	<p>Rare/limited distribution at MCZ and UK level. Only national example for reference condition.</p>	<p>Rare/limited distribution at MCZ and UK level. Only national example for reference condition.</p>
<p>European eel <i>Anguilla anguilla</i></p>	<p>FOCI Mobile species</p>	<p>✓ * 4</p>	<p>✓</p>	<p>N/A</p>	<p>None</p>	<p>Recover to reference condition</p>	<p>This feature is not protected in any existing MPAs within the SW region, and is on the minimum replication within MCZs and recommended reference areas. This FOCI is currently only reaching the minimum replication target.</p>	<p>The eel is a UK BAP priority species and IUCN red data book listed. Only national example for reference condition.</p>	<p>The eel is a UK BAP priority species and IUCN red data book listed. Only national example for reference condition.</p>

Burgundy maerl paint weed <i>Cruoria cruoriaeformis</i>	FOCI Species	✓ * 1	✓	✓	One of only two replicates within national network	Recover to reference condition	This has not met ENG guidelines for replication, however, it cannot be met in this region as the feature is not present in any other locations.	Rare/limited distribution at MCZ and UK level. Only national example for reference condition.	Rare/limited distribution at MCZ and UK level. Only national example for reference condition.
Couch's goby <i>Gobius couchi</i>	FOCI Species	✓ * 1	X	X	This site has not met the ENG target for viability	Recover to reference condition	There are only two sites proposed for this species in the national network.	This species is very rare and this is the only one of two sites put forward for designation nationally. Only national example for reference condition.	Outside of the Finding Sanctuary Region, no site has been proposed for this feature. Only national example for reference condition.
The red algae <i>Grateloupia montagnei</i>	FOCI Species	X * 5	X	X * 6	This site has not met the ENG target for viability.	Recover to reference condition	There is no confidence in the presence of this feature at this site.	Rare/limited distribution at MCZ and UK level. Only national example for reference condition.	Rare/limited distribution at MCZ and UK level. Only national example for reference condition.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 7					
Overlaps with existing MPAs				✓ * 8					

Additional comments:

- ¹ The replication target of 3 has not been met, but the feature has a very limited distribution regionally and nationally so considered to be met.
- ² The replication target of 3 has not been met, for FOCI habitat maerl beds, or the FOCI maerl species *Lithothamnion corallioides*. Other examples of *Lithothamnion corallioides* maerl beds are known to occur within the Studland to Portland pSAC in Dorset. However, neither location qualifies to be included to the pSAC designation, particularly as one of these beds was previously impacted by dredging and recovery of maerl beds is very slow. No MCZ has been recommended for the beds in Dorset (Natural England pers comms,)
- ³ These BSH features do not meet the minimum target for viability. However, the recommended reference area sits within an estuary which is of restricted size; therefore it is not possible to meet the minimum ENG viability criteria of 5km.
- ⁴ FOCI species *Anguilla anguilla* is not protected in any existing MPAs within the SW region. The MCZ designations are needed to meet the minimum ENG target for replication.
- ⁵ Natural England advises that there is no confidence in the presence or extent of the FOCI *Grateloupia montagnei* in this site, which leaves no replicates for the feature listed within the Finding Sanctuary regional area, and no example of the feature in reference sites nationally. There are records of the FOCI *Grateloupia montagnei* within the Isles of Scilly sites so the feature could be included there (Smith Sound Tide-Swept Channel).
- ⁶ The FOCI *Grateloupia montagnei* does not meet the minimum target for viability (1km).
- ⁷ Site sits within a 'Benthic Hot Spot' (top 25% at the regional level)
- ⁸ This site sits within The Fal and Helford SAC.

Suggested amendments:

- ⁵ Natural England advises that there is no confidence in the presence or extent of the FOCI *Grateloupia montagnei* in this site, which leaves no replicates for the feature listed within the Finding Sanctuary regional area, and no example of the feature in reference sites nationally. **There are records of the FOCI *Grateloupia montagnei* within the Isles of Scilly sites so the feature could be included there (Smith Sound Tide-Swept Channel).**

Summary of site benefits:

- The goby *Gobius couchi* that is recorded here has only been recorded in 4 locations around the UK. This site is therefore an important site for the species and is one of only two sites within the national network that is recommended for this feature.
- This site has been put forward particularly for its rich benthic habitat and species diversity; with two important FOCI habitats present (maerl beds and seagrass beds) (SAD in (Lieberknecht, et al. 2011)). Maerl beds attract many other species, for example the rare Couch's goby (*Gobius couchi*) (SAD in (Lieberknecht, et al. 2011)).

- This is the only reference area, nationally, proposed for subtidal macrophyte-dominated sediments; *Lithothamnion corallioides*; *Phymatolithon calcareum*; *Anguilla anguilla*; *Cruoria cruoriaeformis*; and *Gobius couchi*. This is the only reference area, regionally, proposed for low energy intertidal rock; maerl beds; and *Ostrea edulis*.
- *Subtidal seagrass beds (Zostera marina) have high rates of primary production* and also provide food for grazing overwintering wildfowl. They provide shelter or a substrate for a wide range of species including cuttlefish which use eelgrass to lay their eggs on. The dissipation of wave and tidal current energy by seagrasses and the sediment stability provided by the binding effect of their roots/ rhizomes gives them an important role in preventing and reducing coastal erosion. Seagrass beds also aid in the regulation of pollution through its take up of inorganic nutrients (Fletcher, et al. 2012).
- The three dimensional structure of maerl forms structurally complex habitats which provide a wide range of niches for infaunal and epifaunal organisms which increase the habitat complexity further. Commercially important species such as scallops (*Aequipecten* spp., *Pecten* spp.), razor clams (*Ensis* spp.) and clams (*Dosinia* spp., *Tapes* spp.) are typically found in abundance in maerl beds. The habitat complexity and biota of maerl beds has been shown to significantly reduce the mortality in juvenile Atlantic cod (Fletcher, et al. 2012).
- Subtidal macrophyte-dominated habitat is characterised by high species diversity reliant on rich algal habitats such as kelp, subtidal seagrass beds (*Zostera marina*), or accumulations of maerl. These habitats provide for high rates of productivity, and the range of complex habitats for a range of niches for species covering all trophic levels (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation there would be no examples of; subtidal macrophyte-dominated sediments; *Lithothamnion corallioides*; *Phymatolithon calcareum*; *Anguilla anguilla*; *Cruoria cruoriaeformis*; and *Gobius couchi* protected to reference condition within the whole MCZ project area and within the region.
- if this site is not taken forward for designation then there would be no examples of low energy intertidal rock; maerl beds; and *Ostrea edulis* protected to reference condition within the region.

Site name: rRA FS 11 Swanpool (Finding Sanctuary) (Natural England lead)

Table 159 An overview of features proposed for designation within Swanpool recommended reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Trembling sea mat <i>Victorella pavid</i>	FOCI Species	✓ * 1	✓	✓ * 2	Only replicate within national network	Recover to reference condition	This has not met ENG guidelines for replication, however, it cannot be met in this region as the feature is not present in any other locations.	This feature is only known to occur in one location in the MCZ project area.	This feature is only known to occur in one location in the MCZ project area.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				None					
Overlaps with existing MPAs				✓ * 3					

Additional comments:

- ¹ Replication: FOCI species *Victorella pavida* has not met ENG replication measure, however it is not present in any other location so the target is met.
- ² The ENG states that the FOCI species *Victorella pavida* (Trembling sea mat) is found in saline lagoons, and viability is dependent on the whole lagoon being included. In this location the whole lagoon is included, so is considered viable
- ³ Swanpool is already designated as an SSSI, and *Victorella pavida* is already protected within it (SAD in (Lieberknecht, et al. 2011)). This rMCZ is therefore unlikely to add any additional protection.
- This site, technically, sits outside the limits of the MCZ project area (above the OS Boundary Line MHW) (SAD in (Lieberknecht, et al. 2011)).

Summary of site benefits:

- This is the only recommended site (reference areas and MCZs), nationally, that is proposed for the trembling seamat (*Victorella pavida*).
- This is the only confirmed place in English waters where the FOCI species *Victorella pavida* has been recorded.

Implications of the site not being designated:

- If this site is not taken forward for designation then there would be no examples of the trembling seamat (*Victorella pavida*) protected to reference condition within the national network.

Site name: rMCZ FS 23 Dart Estuary rMCZ (Finding Sanctuary) (Natural England lead)

Table 160 An overview of features proposed for designation within the Dart Estuary rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the second largest area of intertidal mud		
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	N/A	✓ * 1	None	Maintain			
A5.3 Subtidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
Intertidal underboulder communities	FOCI Habitat	✓	✓	✓ * 2	None	Maintain			BAP habitat
Estuarine rocky habitats	FOCI Habitat	✓	✓	✓ * 2	None	Maintain			BAP habitat

Tentacled lagoon-worm <i>Alkmaria romijni</i>	FOCI Species	✓ * 3	✓	✓ * 4	None	Maintain	This FOCI is currently only reaching the minimum replication target		WCA species
European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	<i>Maintain/ Recover</i> * 5			BAP and OSPAR species
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 5					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ Although this rMCZ does not meet the minimum viable size for BSHs in diameter (5km minimum), this is met in linear length. Due to the natural geographic boundary of the estuary it is considered viable (using Natural England expert judgement), however it would be improved if the entire length of the estuary was captured within the rMCZ.
- ² Although the minimum viable patch diameter for FOCI habitats Intertidal underboulder communities and Estuarine rocky habitats (0.5km) is not met around the records of these features, it is still considered viable, as the narrow shape of estuaries means that the patch size viability is met through the maximum diameter only.
- ³ This FOCI species (*Alkmaria romijni*) only has the minimum amount of replicates.
- ⁴ Although the minimum viable patch diameter for *Alkmaria romijni* (0.5km) is not met around the record of this feature, it is still considered viable, as the narrow shape of estuaries means that the patch size viability is met through the maximum diameter only.
- ⁵ At the time of the vulnerability assessment meetings, no decision was taken whether the conservation objective for this feature should ‘maintain’ or ‘recover’.
- ⁵ There have been a large number of seahorse sightings within the rMCZ boundary, reported to the Seahorse Trust (SAD in (Lieberknecht, et al. 2011)). The Dart is an important estuary for migratory anadromous fish (for example, salmon, sea trout, eels), and other habitats present include small saline lagoons, sheltered muddy gravels, and salt marsh. The native oyster, *Ostrea edulis*, has been recorded within the rMCZ boundary.

Suggested amendments:

- ¹ Although this rMCZ does not meet the minimum viable size for BSHs in diameter (5km minimum), this is met in linear length. Due to the natural geographic boundary of the estuary it is considered viable (using Natural England expert judgement), **however it would be improved if the entire length of the estuary was captured within the rMCZ.**

Summary of site benefits:

- Infaunal species on the Dart are very diverse with a number of notably rare and scarce species (for example, *Cerebratulus pantherinus*, *Sternaspis scutata*, *Jaxea nocturna*, and *Selioides bocqueti*). (pers comm, G. Black, Natural England)
- Estuaries are important contributors to ecological productivity, and have an important function as fish nursery areas.
- Out of all the rMCZs in the FS area, this site contributes the second largest area of intertidal mud.
- Intertidal mud is a highly productive ecosystem and is an important feeding ground for wading and migratory birds that is available all year round. This habitat plays a crucial role in primary biomass production through the biofilm made up of microalgae at the air-mud interface. Intertidal mudflats are desirable areas for carbon storage due to the higher sedimentation rates than some other habitats such as freshwater wetlands (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012)
- Underboulder communities are entirely different from those communities present on the tops and sides of boulders. The interstitial spaces form microhabitats greatly add to shoreline biodiversity providing opportunity for education and research. The shade, moisture and sheltered conditions offer habitat to species which would otherwise not survive the harsh conditions. The habitat provides niches for a range of encrusting species, sponges, bryozoans (sea mats), and ascidians (sea squirts; refuge for young shellfish, and predator protection for fish species such as blennies (Fletcher, et al. 2012).
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are “critical components to future carbon management discussions and strategies (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated, the replication target will not be met for *Alkmaria romijni* which is a nationally scarce species (www.marlin.ac.uk)

Site name: rMCZ FS 24 Skerries Bank and Surrounds rMCZ (Finding Sanctuary) (Natural England lead)

Table 161 An overview of features proposed for designation within the Skerries Bank and Surrounds rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓	✓	✓	None	Maintain			
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓	None	Maintain			
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 1	✓	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓	None	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓	None	Maintain			
A3.1 High energy infralittoral rock	BSH	✓	✓	✓	None	Maintain			

A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the largest area of moderate energy infralittoral rock		
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Maintain			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within the existing MPAs in the FS area	
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain		Only a small proportion (<1%) of this BSH is currently protected within the existing MPAs in the FS area	
A5.3 Subtidal mud	BSH	✓	✓	✓	None	Maintain			
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	✓	✓	None	Maintain			BAP and WCA species
Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI Species	✓ * 2	✓	✓	None	Maintain	This FOCI is currently only reaching the minimum replication target	This feature is not protected within existing MPAs in the FS area	BAP, OSPAR and WCA species

Intertidal underboulder communities	FOCI Habitat	✓	✓	✓ * 3	None	Maintain			BAP habitat
Spiny lobster <i>Palinurus elephas</i>	FOCI Species	✓	✓	✓	None	Recover	This feature is not protected in any existing MPAs within the SW. region, This FOCI is currently only reaching the minimum replication target	There is evidence that <i>Palinurus elephas</i> is in unfavourable condition in all SW waters.	BAP species. This feature has limited distribution in the whole MCZ area (only proposed sites occur in the FS region)
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 4					
Overlaps with existing MPAs				✓ * 5					

Additional comments:

- ¹ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ² Viability for *Hippocampus hippocampus* is dependent on patch diameter (0.5km). A 0.5km area encompassing the record(s) is possible within this rMCZ.
- ³ Due to the linear nature of the intertidal area, this rMCZ meets the minimum viable patch size for intertidal underboulder communities (0.5km) through its maximum diameter only.
- ⁴ Maerl has also been recorded as being present within the rMCZ. This area is an important breeding area for flat fish and also a breeding ground for mobile species.
- ⁵ This rMCZ overlaps partially with the Start Point to Plymouth Sound and Eddystone cSAC (designated for subtidal reefs).

Suggested amendments:

- ¹ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- This rMCZ overlaps with the Inshore Potting Agreement (IPA) and so is considered to be a 'de-facto' MPA already. The IPA prevents bottom-towed gears in static gear zones. The current IPA is a well-enforced and regulated area (SAD in (Lieberknecht, et al. 2011)). This rMCZ is supported by a cross-section of stakeholders as long as the existing management regime is not affected (SAD in (Lieberknecht, et al. 2011)).
- This rMCZ contains an area of higher than average benthic species diversity, and is located within an area of higher than average pelagic interest (SAD in (Lieberknecht, et al. 2011)).
- There is a significant amount of scientific records for this site, in particular for Start Bay and the Skerries Bank area (SAD in (Lieberknecht, et al. 2011)).
- Skerries Bank is a unique feature in the south-west with steep slopes and unusual fish communities.
- Out of all the rMCZs in the FS area, this site contributes the largest area of moderate energy infralittoral rock.
- Only a small proportion (<1%) of BSH subtidal coarse sediment and BSH subtidal sand are currently protected within the existing MPAs in the FS area.
- This site aims to protect *Hippocampus hippocampus* which is not protected in the existing MPA network in the FS area.
- *Palinurus elephas* has limited distribution in the whole MCZ area (only proposed sites occur in the FS region).
- This sea bed within this rMCZ is suggested to be in good condition within the existing no-trawling areas (SAD in (Lieberknecht, et al. 2011)).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon.
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated, the replication target will not be met for *Hippocampus hippocampus*.
- If this site is not designated in conjunction with one other rMCZ for *Palinurus elephas*, ENG guidelines would not be met, as this feature is not protected in any existing MPAs within the SW region.

Site name: rMCZ 25 Devon Avon Estuary rMCZ (Finding Sanctuary) (Natural England lead)

Table 162 An overview of features proposed for designation within the Devon Avon Estuary rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 2	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	N/A	✓ * 1	None	Maintain			

A3.1 High energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	✓ * 1	None	Maintain		Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
A5.3 Subtidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
Tentacled lagoon-worm <i>Alkmaria romijni</i>	FOCI Species	✓ * 3	✓	✓ * 4	None	Maintain	This FOCI is currently only reaching the minimum replication target		WCA species
European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	<i>Maintain / Recover</i> * 5			BAP and OSPAR
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 6					
Overlaps with existing MPAs				✓ * 7					

Additional comments:

- ¹ Although this rMCZ does not meet the minimum viable size for BSHs (5km minimum diameter), the entire estuary unit is contained within the rMCZ boundary. Therefore this rMCZ is believed to be viable for all BSHs (using Natural England expert judgement).

- ² The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ³ The feature *Alkmaria romijni* only has the minimum amount of replicates.
- ⁴ Although the minimum viable patch diameter for *Alkmaria romijni* (0.5km) is not met around the record of this feature, it is still considered viable, as the narrow shape of estuaries means that the patch size viability is met through the maximum diameter only.
- ⁵ At the time of the vulnerability assessment meetings, no decision was taken whether the conservation objective for this feature should 'maintain' or 'recover'.
- ⁶ This estuary is potentially very important for seahorse populations, as it provides food and shelter (SAD in (Lieberknecht, et al. 2011)).
- ⁷ This rMCZ overlaps slightly with the Start Point to Plymouth Sound and Eddystone cSAC (designated for subtidal reefs).

Suggested amendments:

- ² The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- Estuaries are important contributors to ecological productivity, and have an important function as nursery areas.
- Only a small proportion (<1%) of BSH subtidal sand is currently protected within existing MPAs in the FS area.
- Sediment habitats are ecologically important. Some support sand eel which support seabirds such as puffin, razorbills and guillemots; and others bivalves and other infauna which support wading birds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are "critical components to future carbon management discussions and strategies" (Fletcher, et al. 2012).

- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated, the replication target will not be met for *Alkmaria romijni*.

Site name: rMCZ 26 Erme Estuary rMCZ (and rRA 08 Erme Estuary) (Finding Sanctuary) (Natural England lead)

Table 163 An overview of features proposed for designation within the Erme Estuary rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			

A2.4 Intertidal mixed sediments	BSH	✓	✓	✓ * 1	None	Maintain			
A3.1 High energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Maintain			
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Maintain			
A3.3 Low energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the largest area of low energy infralittoral rock	Only significant site proposed for this feature within the region	
A5.2 Subtidal sand	BSH	✓	✓	✓ * 1	None	Maintain		Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
A5.3 Subtidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	<i>Maintain / Recover</i> * 2			BAP and OSPAR
Estuarine rocky habitats	FOCI Habitat	✓	✓	✓ * 3	None	Maintain			BAP habitat

Sheltered muddy gravels	FOCI Habitat	✓	✓	✓ * 4	None	Maintain				BAP habitat
Site considerations										
Connectivity				✓						
Geological/Geomorphological features of interest				None						
Appropriate boundary				✓						
Areas of Additional Ecological Importance				✓ * 5						
Overlaps with existing MPAs				✓ * 6						

Table 164 rRA 08 Erme Estuary (Finding Sanctuary) (Natural England lead), within rMCZ 26. An overview of features proposed for designation within the Erme Estuary recommended reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A3.3 Low energy infralittoral rock	BSH	X	Recover to reference condition
A5.3 Subtidal mud	BSH	X	Recover to reference condition
A2.5 Coastal salt marshes and saline reedbeds	BSH	X	Recover to reference condition
A2.4 Intertidal mixed sediments	BSH	X	Recover to reference condition
A2.3 Intertidal mud	BSH	X	Recover to reference condition
Sheltered muddy gravels	FOCI Habitat	X	Recover to reference condition
European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓		

Additional comments:

- ¹ Although this rMCZ does not meet the minimum viable size for BSHs (5km minimum diameter), the entire estuary unit is contained within the rMCZ boundary. Therefore this rMCZ is believed to be viable for all BSHs (using Natural England expert judgement).
- ² At the time of the vulnerability assessment meetings, no decision was taken whether the conservation objective for this feature should 'maintain' or 'recover'.
- ³ Although the minimum viable patch diameter for FOCI habitat Estuarine rocky habitats (0.5km) is not met around the record of this feature, it is still considered viable, as the narrow shape of estuaries means that the patch size viability is met through the maximum diameter only.
- ⁴ Although the minimum viable patch diameter for FOCI habitat sheltered muddy gravels (0.5km) is not met around the record of this feature, it is still considered viable, as the narrow shape of estuaries means that the patch size viability is met through the maximum diameter only.
- ⁵ The estuary is a spawning ground for sea trout and also provides a habitat for a population of European Otters (SAD in (Lieberknecht, et al. 2011)).
- ⁶ This rMCZ overlaps slightly with the Start Point to Plymouth Sound and Eddystone cSAC (designated for subtidal reefs). The Erme is also designated as a SSSI.

Summary of site benefits:

- Out of all the rMCZs in the FS area, this site contributes the largest area of low energy infralittoral rock
- Estuaries are important contributors to ecological productivity, and have an important function as nursery areas.
- This rMCZ is the only significant site proposed for low energy infralittoral rock within the FS region.
- Only a small proportion (<1%) of BSH subtidal sand is currently protected within existing MPAs in the FS area
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated, there will be no significant sites designated for low energy infralittoral rock within the FS region.

Site name: rMCZ 27 Tamar Estuary (Finding Sanctuary) (Natural England lead)

Table 165 An overview of features proposed for designation within Tamar Estuary and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-activity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.7 Intertidal biogenic reefs	BSH	✓ * 1	✓	✓ * 3	None	<i>Maintain</i> *4	This rMCZ is the only site in FS region with this feature*1	This rMCZ is the only site in FS region with this feature*1	
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 3	None	Maintain			
Blue mussel beds <i>Mytilus edulis</i>	FOCI Habitat	✓ * 2	✓	X * 8	None	Maintain			
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Maintain			
Smelt <i>Osmerus eperlanus</i>	FOCI Mobile species	✓ * 9	✓	N/A	None	Maintain/Recover * 4	Tamar is the only site in the region with Smelt listed	Tamar is the only site in the region with Smelt listed	

European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	<i>Maintain/Recover</i> * 4	This feature is not protected in any existing MPAs within the SW region. This FOCI is currently only reaching the minimum replication target	BAP species and IUCN red data book listed.	BAP species and IUCN red data book listed.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 5					
Areas of Additional Ecological Importance				✓ * 6					
Overlaps with existing MPAs				✓ * 7					

Additional comments:

- ¹ Although the Tamar is the only site which is listed for BSH intertidal biogenic reef in the Finding Sanctuary region, the ENG (Table 6) lists BSH for which replication, viability and connectivity guidelines will be used to meet the principles of adequacy, and that all of these (except BSH Deep-sea bed) should be assigned component FOCI habitats. For BSH Intertidal biogenic reefs these are the intertidal honeycomb worm (*Sabellaria alveolata* reefs), and intertidal blue mussel beds. There are over 5 replicates for both these FOCI habitats, so replication is met for the BSH.
- ² There are only three replicates including one existing MPA.
- ³ Due to the linear nature of the intertidal this rMCZ meets the minimum viable size through its length only.
- ⁴ At the time of the vulnerability assessment meetings, no decision was taken whether the conservation objective for this feature should be ‘maintain’ or ‘recover’.(SAD in (Lieberknecht, et al. 2011)).
- ⁵ The boundary follows the ENG guidelines, however, it excludes the lower estuary, and this will potentially weaken the ecological functioning and connectivity of the estuary. It is recognised however, that this region was excluded to reduce potential conflict with anthropogenic activities, and any boundary changes could reduce stakeholder support for the site.
- ⁶ This MCZ is subject to monitoring by the EA and Natural England due to the current SAC designation, and Water Framework Directive (WFD) requirements.
- ⁷ The site is included within the Plymouth Sound and Estuaries SAC, overlaps with the Tamar estuaries complex SPA, Tamar-Tavy SSSI, and Lynher estuary SSSI.

- ⁸ Viability for the **FOCI habitat Blue mussel beds (*Mytilus edulis*)** / is dependent on the whole patch being included where it occurs in discrete locations. In this site, it is not entirely clear if the mussel bed is distinct or not, but there are other records very close by outside the boundary, so unlikely to be viable. However, extending the boundary would have socioeconomic implications.
- ⁹ This is the only MCZ where the FOCI mobile species *Osmerus eperlanus* is listed, though the replication target is met as it has a limited distribution in the region.

Suggested amendments:

- ⁵ The boundary follows the ENG guidelines, however, it excludes the lower estuary, and this will potentially weaken the ecological functioning and connectivity of the estuary. It is recognised however, that this region was excluded to reduce potential conflict with anthropogenic activities, and any boundary changes could reduce stakeholder support for the site.

Summary of site benefits:

- This is the only site in Finding Sanctuary proposed for Smelt (*Osmerus eperlanus*). Expert opinion from the EA is that it is a spawning ground, and the only known one in the SW region.
- This MCZ is subject to monitoring by the EA and by Natural England due to the current SAC designation, and WFD requirements and therefore it has a recent history of scientific research.
- The site supports a number of other habitats such as coastal salt marshes and saline reedbeds and seagrass ((Mapping European Seabed Habitats project (MESH), (ABPmer 2009a, Lieberknecht, et al. 2011)).
- This MCZ intersects with 3.67km² of polygonal data which The Seahorse Trust provided to Finding Sanctuary showing likely areas of seahorses across the South -west region.
- The main reason for inclusion of this site, in addition to existing designations, is in recognition of the ecological importance of the estuary as a nursery area and use by mobile species (SAD in (Lieberknecht, et al. 2011)).
- The upper reaches of the estuary which the rMCZ covers are internationally important for wintering wild fowl and waders, including the Avocet.
- Biogenic reefs play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonisation by other organisms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection.
- Mussel reefs are also an important food source for birds and have a strong stabilising effect on the sediment, thereby countering erosive wave action.

Implications of the site not being designated:

- Removal of this site would leave FOCI species blue mussel beds, unrepresented within the SW region.
- Removal of this site would mean that no MPAs in the SW region would be designated for smelt.

Site name: rMCZ 28 Whitsand and Looe Bay (Finding Sanctuary) (Natural England lead)

Table 166 An overview of features proposed for designation within Whitsand and Looe Bay rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
A5.2 Subtidal sand	BSH	✓	✓	✓ * 1	None	Maintain			
A4.2 Moderate energy circalittoral rock	BSH	✓	✓ * 2	✓ * 2	None	Maintain			
A3.1 High energy infralittoral rock	BSH	✓	✓	✓ * 1	None	Maintain			
A1.1 High energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			

A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓ * 1	None	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 3	✓ * 1	None	Maintain			
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
Seagrass beds	FOCI Habitat	✓	✓	✓	None	Maintain			
Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI Species	✓ * 4	✓	✓	None	Maintain	This FOCI is currently only reaching the minimum replication target		
Ocean quahog <i>Arctica islandica</i>	FOCI Species	✓	✓	✓	None	Maintain			
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	✓ * 5	✓ * 5	None	Maintain			
Giant goby <i>Gobius cobitis</i>	FOCI Species	✓	✓	✓	None	Maintain	Species only recorded within SW rMCZs. One of only four replicates for this species	Important for connectivity relating to <i>Gobius cobitis</i> around the SW peninsula	Only south-west sites are proposed for this species. No examples in other regions.

Stalked jellyfish <i>Halicyclystus auricula</i>	FOCI Species	✓	✓	✓	None	Maintain			
Long-snouted seahorse <i>Hippocampus guttulatus</i>	FOCI Species	X * 6	X * 6	✓	This is one of only two sites proposed for short-snouted seahorse in the region.	Maintain			

Site considerations	
Connectivity	✓ * 1
Geological/Geomorphological features of interest	None
Appropriate boundary	✓
Areas of Additional Ecological Importance	✓
Overlaps with existing MPAs	None

Additional comments:

- ¹ Due to the linear nature of the coastline this rMCZ meets the minimum viable size through its length only.
- ² Adequacy and viability would be met but there is no data in the combined EUNIS Level 3 data for this BSH Moderate energy circalittoral rock at this site, but presence of hard substratum species and presence of rocky ledges on detailed sidescan sonar indicate that this broad-scale habitat is present.
- ³ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats (Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ⁴ Only minimum level of replication achieved for FOCI species *Amphianthus dohrnii*, however the anemone is cryptic and associated with Pink Sea fans which are more widely distributed throughout the rMCZ sites in the SW
- ⁵ Although the viability target is met, it is unclear whether there is habitat to support FOCI species *Eunicella verrucosa* which requires a rocky substrate for holdfast.

- ⁶ FOCI species *Hippocampus guttulatus* is only listed in two sites in the region. However there is considerable evidence that *Hippocampus guttulatus* is present in Studland Bay rMCZ and is greater numbers than *Hippocampus hippocampus* which are listed. It is advised that it should be added to Studland Bay which would bring replication up to the target of 3, and adequacy would then also be met.
- ⁷ The site is important in maintaining connectivity within the Finding Sanctuary regional project.

Suggested amendments:

- ³ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**
- ⁶ FOCI species *Hippocampus guttulatus* is only listed in two sites in the region. However there is considerable evidence that *Hippocampus guttulatus* is present in Studland Bay rMCZ and is greater numbers than *Hippocampus hippocampus* which are listed. **It is advised that it should be added to Studland Bay which would bring replication up to the target of 3, and adequacy would then also be met.**

Summary of site benefits:

- This site contains a diverse range of habitats and species, from intertidal sediment, to circalittoral rock and as such offers high value in representing a range of features.
- The site includes an existing voluntary marine conservation area (Looe Bay) with associated management and interpretation in place.
- Only south -west sites are proposed for the Giant Goby (*Gobius cobitis*). No examples in other regions.
- Only a small proportion (<1%) of BSHs subtidal coarse sediment and subtidal sand are currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of these features in this region.
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).

- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation we would lose an important site for connectivity for giant goby (*Gobius cobitis*) and pink seafan *Eunicella verrucosa*.
- In addition, the number of sites proposed for *Hippocampus guttulatus* would be halved within the region (only two site proposed). There are only four sites nationally so it would be a significant loss nationally too.

Site name: rMCZ 29 Upper Fowey and Pont Pill (Finding Sanctuary) (Natural England lead)

Table 167 An overview of features proposed for designation within Upper Fowey and Pont Pill rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	✓	✓ * 1	None	Maintain		Important for connectivity relating to salt marsh along the south coast of the SW peninsula	
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 2	✓ * 1	None	Maintain			
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			

Estuarine rocky habitats	FOCI Habitat	✓	✓	✓	None	Maintain			
Sheltered muddy gravels	FOCI Habitat	✓	✓	✓	None	Maintain			
European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	<i>Maintain/Recover</i> * 6	This feature is not protected in any existing MPAs within the SW region. This FOCI is currently only reaching the minimum replication target	The eel is a UK BAP priority species and IUCN red data book listed.	The eel is a UK BAP priority species and IUCN red data book listed.
Site considerations									
Connectivity				✓ * 3					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 4					
Areas of Additional Ecological Importance				✓ * 5					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ Due to the linear nature of the estuary this rMCZ meets the minimum viable size through its length only.
- ² The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ³ Important for connectivity of salt marsh along the south coast of the SW peninsula.
- ⁴ The boundary excludes the more developed and commercially important section of the estuary and as such is not ecologically complete. However, the boundary corresponds to the existing voluntary marine and coastal conservation area which has broad public and stakeholder support.

- ⁵ The site includes a range of estuarine habitats typical of a south-western ria and has additional ecological importance in terms of high productivity and function as a nursery area.
- ⁶ At the time of the vulnerability assessment meetings, no decision was taken whether the conservation objective for this feature should be 'maintain' or 'recover'. (Lieberknecht, et al. 2011).

Suggested amendments:

- ² The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- The site includes a range of estuarine habitats typical of a south-western ria and has additional ecological importance in terms of high productivity and function as a nursery area.
- This site is important for maintaining connectivity of coastal salt marsh along the SW peninsula.
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are "critical components to future carbon management discussions and strategies (Fletcher, et al. 2012)"
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos. Estuarine soft sediments support a diverse group of microscopic and macroscopic organisms (Fletcher, et al. 2012).
- Intertidal mud is a highly productive ecosystem and is an important feeding ground for wading and migratory birds that is available all year round. This habitat plays a crucial role in primary biomass production through the biofilm made up of microalgae at the air-mud interface. Intertidal mudflats are desirable areas for carbon storage due to the higher sedimentation rates than some other habitats such as freshwater wetlands (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation we would lose an important site for the connectivity of coastal salt marsh within the region.

Site name: rMCZ 31 South of Falmouth (Finding Sanctuary) (Natural England lead)

Table 168 An overview of features proposed for designation within South of Falmouth and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Recover			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 1					
Overlaps with existing MPAs				None					

Additional comments:

- None.

Summary of site benefits:

- ¹ This site is located in an area of seasonal frontal systems, which means the area has high productivity (ref. SAD).
- This site is important for the connectivity of the network along the south Cornwall coast (local adviser knowledge).

- This site is in the region of a 'Benthic Hot Spot'.
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation the connectivity of the network would be compromised

Site name: rMCZ 32 The Manacles (Finding Sanctuary) (Natural England lead)

Table 169 An overview of features proposed for designation within The Manacles and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓	X * 3, 5	This site has not met the ENG target for viability (All BSH)	Maintain			
A5.5 Subtidal macrophyte-dominated sediment	BSH	✓	✓	X * 3, 5	This site has not met the ENG target for viability (All BSH)	<i>Maintain</i>		Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
A5.4 Subtidal mixed sediments	BSH	✓	✓	X * 3	This site has not met the ENG target for viability (All BSH)	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	X * 3	This site has not met the ENG target for viability (All BSH)	Maintain			

A4.2 Moderate energy circalittoral rock	BSH	✓	✓	X * 3	This site has not met the ENG target for viability (All BSH)	Maintain		This site is evidenced to support a high-quality reef system, which was the primary reason for selection.	
3.2 Moderate energy infralittoral rock	BSH	✓	✓	X * 3	This site has not met the ENG target for viability (All BSH)	Maintain		This site is evidenced to support a high-quality reef system, which was the primary reason for selection.	
A2.1 Intertidal coarse sediment	BSH	✓	✓	X * 3	This site has not met the ENG target for viability (All BSH)	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	X * 3	This site has not met the ENG target for viability (All BSH)	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	X * 3	This site has not met the ENG target for viability (All BSH)	Maintain			

A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 5	X * 3	This site has not met the ENG target for viability (All BSH)	Maintain			
A1.2 Moderate energy intertidal rock	BSH	✓	✓	X * 3	This site has not met the ENG target for viability (All BSH)	Maintain			
Maerl beds	FOCI Habitat	X * 2	x	✓	The replication target has not been met.	<i>Maintain</i>	This has not met ENG guidelines for replication, however, it cannot be met in this region as the feature is not present in any other locations (not including existing MPAs).	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI Species	✓ * 1	✓	✓	None	Maintain	This site is critical for the achievement of replication guidelines	Local group feedback indicates that this is one of the best examples of pink sea fan communities and the pink sea fan anemone in the region.	This feature has a limited national distribution.

Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	X	X * 4	This site has not met the ENG target for viability	Maintain		Local group feedback indicates that this is one of the best examples of pink sea fan communities and the pink sea fan anemone in the region.	This feature has a limited national distribution.
Stalked jellyfish <i>Haliclystus auricula</i>	FOCI Species	✓ * 1	✓	✓	None	Maintain	This feature is not protected in any existing MPAs within the SW region		
Sunset cup coral <i>Leptopsammia pruvoti</i>	FOCI Species	✓	✓	✓	None	Maintain			This feature has a limited national distribution.
Spiny lobster <i>Palinurus elephas</i>	FOCI Species	✓	X	X * 4	This site has not met the ENG target for viability	Recover	This feature is not protected in any existing MPAs within the SW region, therefore, MCZ designation is needed to meet the minimum ENG target for replication	There is evidence that <i>Palinurus elephas</i> is in unfavourable condition in all SW waters.	There is evidence that <i>Palinurus elephas</i> is in unfavourable condition in all SW waters. It has a limited distribution nationally.

Basking shark <i>Cetorhinus maximus</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain		Data submitted highlights the frequent use of this area by <i>Cetorhinus maximus</i> .	On the IUCN Red list the basking shark is considered globally vulnerable, and endangered in the north-east Atlantic.
Harbour porpoise <i>Phocoena phocoena</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain		Data submitted highlights the frequent use of this area by <i>Phocoena phocoena</i> as an important feeding area.	This species is a UK BAP priority species and is on the OSPAR List of threatened and/or declining species.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 3					
Areas of Additional Ecological Importance				✓ * 6					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ Replication: This site is critical for the achievement of replication guidelines for *Amphianthus dohrnii* and *Haliclystus auricular*.
- ² Replication: The FOCI habitat maerl has not met the ENG target for replication. The ENG also lists two types of maerl FOCI species. There are very few locations for both species in this regional project area, and neither meets replication guidelines. However two other locations of the maerl *Lithothamnion corallioides* are known to occur within the Studland to Portland pSAC in Dorset, however neither qualify in quality to be included to the pSAC designation, particularly as one of these beds was previously impacted by dredging and recovery of maerl beds is very slow. No MCZ has been recommended for the beds in Dorset.
- ³ Viability: This site has not met the target (5km diameter) for viability for all BSH.
- ⁴ Viability for the FOCI species *Eunicella verrucosa* and *Palinurus elephas* is dependent on patch diameter (5km), which is not met in this site.

- Local group feedback indicates that the FOCI habitats ‘fragile sponge and anthozoan communities on subtidal rocky habitats’ and ‘intertidal underboulder communities’ are present at this site, but the regional project did not have records of these features mapped (SAD in (Lieberknecht, et al. 2011)).
- ⁵ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ⁶ This is an area of productive tidal fronts.

Suggested amendments:

- ⁵ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- This site was unanimously suggested by the Cornwall Local Group. The Local Group strongly support this rMCZ, they view it as an essential component of the network (SAD in (Lieberknecht, et al. 2011)).
- Non-ENG features: This area is of importance for basking sharks and an important feeding area for small cetaceans (in particular harbour porpoises) (SAD in (Lieberknecht, et al. 2011))
- Local group feedback indicates that this is one of the best examples of pink sea fan communities and the pink sea fan anemone in the region (SAD in (Lieberknecht, et al. 2011)).
- Range of depths creates a heterogeneous seafloor topography within the site which encourages a higher variation of biodiversity/biotopes within the site.
- This site has scientific value as it is easily accessible and has been previously well studied.
- The primary reason for selecting this area as a rMCZ was the high-quality reefs present in the site, and the associated FOCI species (SAD in (Lieberknecht, et al. 2011)).
- Local stakeholder and scientific feedback indicates that there are productive tidal fronts in this area (SAD in (Lieberknecht, et al. 2011)).
- The site offers protection to features that are not included in any existing MPAs.

- *Palinurus elephas* is a commercially important species, taken both as a targeted species and as a by-catch from other fisheries. Intensive exploitation has contributed to a very substantial decline in population size since the 1970s. The protection of this species could have a significant contribution towards ecosystems services for fisheries, although it is likely that any protection measures would need to be at a wider scale than MCZ boundaries due to the mobile nature of this species.
- Subtidal macrophyte dominated sediment habitat is characterised by high species diversity reliant on rich algal habitats such as kelp, subtidal seagrass beds (*Zostera marina*), or accumulations of maerl. These habitats provide for high rates of productivity, and the range of complex habitats for a range of niches for species covering all trophic levels (Fletcher, et al. 2012).
- The three dimensional structure of maerl forms structurally complex habitats which provide a wide range of niches for infaunal and epifaunal organisms which increase the habitat complexity further. Commercially important species such as scallops (*Aequipecten* spp., *Pecten* spp.), razor clams (*Ensis* spp.) and clams (*Dosinia* spp., *Tapes* spp.) are typically found in abundance in maerl beds. The habitat complexity and biota of maerl beds has been shown to significantly reduce the mortality in juvenile Atlantic cod (Fletcher, et al. 2012).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation the replication guidelines for FOCI maerl beds, *Amphianthus dohrnii*, and for *Haliclystus auricula* (which is not protected in any existing MPAs within the SW region) would not be met.
- *Palinurus elephas*: This feature is not protected in any existing MPAs within the SW region, therefore, MCZ designation is needed to meet the minimum ENG guidelines for replication and protect this BAP species.

Site name: rMCZ 33 Mounts Bay (Finding Sanctuary) (Natural England lead)

Table 170 An overview of features proposed for designation within Mounts Bay and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.4 Subtidal mixed sediments	BSH	✓	✓	X	This site has not met the ENG target for viability.	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	X	This site has not met the ENG target for viability.	Maintain			
A3.1 High energy infralittoral rock	BSH	✓	✓	X	This site has not met the ENG target for viability.	Maintain			
A1.1 High energy intertidal rock	BSH	✓	✓	X * 3	This site has not met the ENG target for viability.	Maintain			
A2.1 Intertidal coarse sediment	BSH	✓	✓	X * 3	This site has not met the ENG target for viability.	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	X * 3	This site has not met the ENG target for viability.	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 4	X * 3	This site has not met the ENG target for viability.	Maintain			
A1.2 Moderate energy intertidal rock	BSH	✓	✓	X * 3	This site has not met the ENG target for viability.	Maintain			

Seagrass beds	FOCI Habitat	✓	✓	✓	None	Maintain		Limited distribution at MCZ and UK level.	Limited distribution at MCZ and UK level. UK BAP Priority habitat. OSPAR List of Threatened and/or Declining Species and Habitats.
Ocean quahog <i>Arctica islandica</i>	FOCI Species	✓	✓	✓	None	Maintain		Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level
Giant goby <i>Gobius cobitis</i>	FOCI Species	✓	✓	✓	None	Maintain	This feature is not protected in any existing MPAs, and is not proposed in any MCZs outside of the south-west regional project area.	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
Stalked jellyfish <i>Haliclystus auricula</i>	FOCI Species	✓	✓	✓	None.	Maintain			

<p>Stalked jellyfish <i>Lucernariopsis campanulata</i></p>	<p>FOCI Species</p>	<p>X * 1</p>	<p>X</p>	<p>✓</p>	<p>One of only two replicates within region</p>	<p>Maintain</p>	<p>This feature is not protected in any existing MPAs within the SW region. This has not met ENG guidelines for replication, however the feature has a limited regional distribution. This site is critical to replication guidelines.</p>	<p>Rare / limited distribution at MCZ and UK level.</p>	<p>Rare / limited distribution at MCZ and UK level.</p>
<p>Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i></p>	<p>FOCI Species</p>	<p>✓</p>	<p>✓</p>	<p>✓</p>	<p>None</p>	<p>Maintain</p>	<p>This feature is not protected in any existing MPAs within the SW region. This FOCI is currently only reaching the minimum replication target.</p>	<p>Rare / limited distribution at MCZ and UK level.</p>	<p>Rare / limited distribution at MCZ and UK level.</p>
<p>Site considerations</p>									
<p>Connectivity</p>				<p>✓</p>					
<p>Geological/Geomorphological features of interest</p>				<p>None</p>					
<p>Appropriate boundary</p>				<p>✓</p>					
<p>Areas of Additional Ecological Importance</p>				<p>✓ * 6</p>					
<p>Overlaps with existing MPAs</p>				<p>None</p>					

Additional comments:

- ¹ This site is one of only two replicates for *Lucernariopsis campanulata* in the regional network.
- ² Viability: This site has not met the ENG target for viability (5km) for the BSHs subtidal mixed sediments, subtidal sand, high energy infralittoral rock.
- ³ This site does not meet the minimum viability criteria (5km²) for the intertidal BSH High energy intertidal rock, intertidal coarse sediment, intertidal mixed sediments, intertidal sand and muddy sand, and moderate energy intertidal rock. However due to the linear nature of the intertidal **they are** considered viable. Viability would be improved if a larger area of the features were included within the boundary, but the full extent is not clear.
- ⁴ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.

Suggested amendments:

- ³ This site does not meet the minimum viability criteria (5km²) for the intertidal BSH High energy intertidal rock, intertidal coarse sediment, intertidal mixed sediments, intertidal sand and muddy sand, and moderate energy intertidal rock. However due to the linear nature of the intertidal they are considered viable. **Viability would be improved if a larger area of the features were included within the boundary, but the full extent is not clear.**
- ⁵ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- ⁵ This site is important for connectivity of the Finding Sanctuary Regional Project Area.
- ⁶ The site has been reported to offer important nursery functions; act as a sea trout foraging area; of importance to wintering diving birds; and to be of importance for basking sharks (SAD in (Lieberknecht, et al. 2011)).
- This site appears to be a key area for stalked jellyfish, with all three species being recorded in the site.
- The site intersects with an area of higher than average benthic species diversity (SAD in (Lieberknecht, et al. 2011)).
- The area has been highlighted to offer nursery functions to the area, and is important as a sea trout foraging area (SAD in (Lieberknecht, et al. 2011)).
- Local Group feedback has indicated that this area is of importance for wintering diving birds (SAD in (Lieberknecht, et al. 2011)).

- Local Group feedback has also indicated that the area is of importance for basking sharks and cetaceans (SAD in (Lieberknecht, et al. 2011)).
- The Spiny Seahorse, has also been reported to occupy the seahorse meadows in the region (SAD in (Lieberknecht, et al. 2011)).
- The site contributes to connectivity guidelines.
- The site is critical to replication guidelines for *Lucernariopsis campanulata*.
- The site offers protection to features that are not included in any existing MPAs.
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients (Fletcher, et al. 2012)
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012)
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos. Estuarine soft sediments support a diverse group of microscopic and macroscopic organisms (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation replication guidelines would not be met for *Lucernariopsis campanulata*.
- Additionally, it would be difficult to find another site that offers the recorded diversity of stalked jellyfish that this site presents.

Site name: rMCZ 34 Land’s End (Finding Sanctuary) (Natural England lead)

Table 171 An overview of features proposed for designation within Land’s End and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	X	Minimum adequacy target achieved	Maintain		This site intersects with an area of higher than average benthic species diversity	
A5.2 Subtidal sand	BSH	✓	✓	X	This site has not met the ENG target for viability	Maintain		This site intersects with an area of higher than average benthic species diversity	
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	X	This site has not met the ENG target for viability	Maintain		This site intersects with an area of higher than average benthic species diversity	
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	X	This site has not met the ENG target for viability	Maintain		This site intersects with an area of higher than average benthic species diversity	
A4.1 High energy circalittoral rock	BSH	✓	✓	X	This site has not met the ENG target for viability	Maintain		This site intersects with an area of higher than average benthic species diversity	

A3.1 High energy infralittoral rock	BSH	✓	✓	X	This site has not met the ENG target for viability	Maintain		This site intersects with an area of higher than average benthic species diversity	
A1.1 High energy intertidal rock	BSH	✓	✓	X	This site has not met the ENG target for viability	Maintain		This site intersects with an area of higher than average benthic species diversity	
A2.1 Intertidal coarse sediment	BSH	✓	✓	X	This site has not met the ENG target for viability	Maintain			
A2.3 Intertidal mud * 2	BSH							Feature does not exist here and should be removed	
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 3	X	This site has not met the ENG target for viability	Maintain			
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	X	X * 4	This site has not met the ENG target for viability	Maintain			This feature has a limited national distribution.
Sea snail <i>Paludinella littorina</i>	FOCI Species	✓	✓	✓	None	Maintain			Rare / limited distribution at UK level.
Basking shark <i>Cetorhinus maximus</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain		Recognised national 'hot spot' feeding area for <i>Cetorhinus maximus</i> *4	The basking shark is considered globally vulnerable, and endangered in north-east Atlantic. (www.iucnredlist.org).

Bottlenose dolphin <i>Tursiops truncatus</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain		Land's End is a locally important feeding area for small cetaceans.	UK BAP priority species.
arbour porpoise <i>Phocoena phocoena</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain		Land's End is a locally important feeding area for small cetaceans.	UK BAP priority species. OSPAR List of threatened and/or declining species.
Seabirds (species to be confirmed)	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain		Area is of importance for migratory species including Balearic shearwaters, auks, kittiwakes and gannets.	Area is of important for migratory species including Balearic shearwaters, auks, kittiwakes and gannets.
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				X * 5					
Areas of Additional Ecological Importance				✓ * 6, 7, 8					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ Minimum ENG target achieved.
- ² Intertidal mud: This BSH does not occur in the Land's End rMCZ site.
- ³ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ⁴ Viability for the FOCl species Eunicella verrucosa requires a minimum patch diameter of 5km, which is not met at this site.
- ⁵ The boundaries do not follow the guidance set out in the ENG. Boundaries have been digitised from a hand drawn boundary and requires 'smoothing', and a minimum use of straight lines.

- ⁶ Land's End is a well-recognised national 'hot spot' / feeding area for *Cetorhinus maximus* in the spring/summer months.
- ⁷ The Land's End rMCZ contains the Runnelstone reef – an area of high ecological importance for a large range of mobile species, including seabirds, cetaceans, and basking sharks who use the rMCZ as a feeding area (SAD in (Lieberknecht, et al. 2011)). The Runnelstone reef drives an area of upwelling in the site that brings about enhanced productivity and high biodiversity.
- ⁸ The area is an important haul-out and pupping location for grey seals (SAD in (Lieberknecht, et al. 2011)).

Suggested amendments

- The boundaries do not follow the guidance set out in the ENG. Boundaries have been digitised from a hand drawn boundary and requires 'smoothing', and a minimum use of straight lines
- ³ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- *Halicystus auricula* and *Palinurus elephas* have been recorded close to the boundaries of this rMCZ, and may also be present within it (SAD in (Lieberknecht, et al. 2011)).
- This site has scientific value, having been previously studied by the National Oceanography Centre, and as an area of mobile species surveys by the Cornwall Wildlife Trusts.
- Mobile species surveys in the area have provided evidence of the importance of the Land's End rMCZ as a feeding area to cetaceans and seabirds.
- There is strong support for an rMCZ in this area from the Cornwall Local Group (SAD in (Lieberknecht, et al. 2011)).
- This rMCZ intersects with an area of higher than average benthic species diversity (within the south-west context) (SAD in (Lieberknecht, et al. 2011)).
- The site is important for meeting regional connectivity.
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries.
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation connectivity guidelines of the network would be compromised in the region.
- Additionally, if this site was not taken forward for designation there would be limited protection afforded to the intertidal habitats on the Land's End peninsula.
- This site offers a great opportunity for a site specific protection measure for mobile species.

Site name: rMCZ 35 Isles of Scilly sites (Finding Sanctuary) (Natural England lead)

(NOTE: The Isles of Scilly sites rMCZ consists of 11 spatially separate areas. Two of the 11 areas (Smith Sound Tide-Swept Channel and Tean) contain a suggested ‘non-ground disturbance site’, where the Local Group have suggested higher levels of restriction of human activities than in the remaining areas (Lieberknecht, et al. 2011). It was agreed at the local group level (Isles of Scilly local group meeting 27 April 2011, minutes taken by Isles of Scilly IFCA secretariat), that the fishermen should reserve the right to hand line within these sites. This refers mainly to the recreational activity of hand line fishing, and although the level of commercial hand lining is not clear from the minutes, the occurrence and impact of all hand line activity is reported to be minimal. Continuation of this minimal activity is therefore important for stakeholder support of the “higher level restrictions.”)

Table 172 An overview of features proposed for designation within the Isles of Scilly sites and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A3.1 High energy infralittoral rock	BSH	✓	✓	✓ * 1	The Bristows to the Stones area does not meet the ENG target for viability	Maintain * 2		I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity (Natural England 2010d) pg 54.	I of Sc are regionally and nationally unique, due to their exceptional rich biodiversity.

A4.1 High energy circalittoral rock	BSH	✓	✓	✓ * 1	The Bristows to the Stones area does not meet the ENG target for viability	Maintain * 2		I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.	I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓ * 1	The Bristows to the Stones area does not meet the ENG target for viability	Maintain * 2		I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.	I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓ * 1	The Bristows to the Stones area does not meet the ENG target for viability	Maintain * 2		I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.	I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓ * 1	The Bristows to the Stones area does not meet the ENG target for viability	Maintain			

A5.4 Subtidal mixed sediments	BSH	✓	✓	✓ * 1	The Bristows to the Stones area does not meet the ENG target for viability	Maintain			
A5.5 Subtidal macrophyte-dominated sediment	BSH	✓	✓ * 12	✓ * 1	None	Maintain		In I of Sc, these features are particularly important due to their extent, and associated communities (Jackson, et al. 2011).	In I of Sc, these features are particularly important due to their extent, and associated communities.
A5.2 Subtidal sand	BSH	✓	✓	✓ * 1	None	Maintain		In I of Sc, these features are particularly important due to their extent, and associated communities.	In I of Sc, these features are particularly important due to their extent, and associated communities.
A1.1 High energy intertidal rock	BSH	✓	✓	✓ * 3	None	Maintain		I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.	I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 3	None	Maintain		I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.	I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.

A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 3	None	Maintain			
A2.3 Intertidal mud * 4	BSH	✓ * 4	✓ * 4	✓ * 3, 4	None	Maintain	Unlikely to be present here.		
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 7	✓ * 3	None	Maintain			
Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI habitat	✓	✓	✓	None	Maintain * 2		I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.	I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.
Intertidal underboulder communities	FOCI Habitat	✓	✓	✓	None	Maintain		I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.	I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.
Seagrass beds	FOCI Habitat	✓	✓	✓	None	Maintain		In I of Sc, these features are particularly important due to their extent, and associated communities (Jackson, et al. 2011).	In I of Sc, these features are particularly important due to their extent, and associated communities.

Tide-swept channels	FOCI Habitat	✓ * 5	✓	✓	None	Maintain	This has not met ENG guidelines for replication, however, it cannot be met in this region as the feature is not present in any other locations.	I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.	I of Sc are regionally and nationally unique, due to their exceptionally rich biodiversity.
Peat and clay exposures	FOCI Habitat	X	X	✓	Only replicate within region	Maintain	This has not met ENG guidelines for replication, however the feature has a limited regional distribution.	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	✓	✓	The Bristows to the Stones area does not meet the ENG guidelines for viability	Maintain * 2			This feature has a limited national distribution.
Spiny lobster <i>Palinurus elephas</i>	FOCI Species	✓ * 6	✓	✓	The Bristows to the Stones area does not meet the ENG guidelines for viability	Recover	This feature is not protected in any existing MPAs within the SW region. This FOCI is currently only reaching the minimum replication target.	There is evidence that <i>Palinurus elephas</i> is in unfavourable condition in all SW waters (Goñi and Latrouite 2005).	There is evidence that <i>Palinurus elephas</i> is in unfavourable condition in all SW waters. It has a limited distribution nationally.

Stalked jellyfish <i>Haliclystus auricula</i>	FOCI Species	✓	✓	✓	None	Maintain	This feature is not protected in any existing MPAs within the SW region		
Stalked jellyfish <i>Lucernariopsis campanulata</i>	FOCI Species	X	X	✓	One of only two replicates within region	Maintain	This feature is not protected in any existing MPAs within the SW region. This has not met ENG guidelines for replication, however the feature has a limited regional distribution.	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	FOCI Species	✓ * 6	✓	✓	None	Maintain	This feature is not protected in any existing MPAs within the SW region. This FOCI is currently only reaching the minimum replication target.	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI Species	✓ * 6	✓	✓	None	Maintain	This FOCI is currently only reaching the minimum replication target.	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.

Defolin's lagoon snail <i>Caecum armoricum</i> * 13	FOCI Species	✓ * 5, 13	✓ * 13	✓ * 13	None	Maintain	Only replicate within region, yet unlikely to exist in I of Sc.	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
Giant goby <i>Gobius cobitis</i>	FOCI Species	✓	✓	✓	None	Maintain	This feature is not protected in any existing MPAs, and is not proposed in any MCZs outside of the south-west regional project area.	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
Sea snail <i>Paludinella littorina</i>	FOCI Species	✓	✓	✓	None	Maintain			Rare / limited distribution at UK level.
Burgundy maerl paint weed <i>Cruoria cruoriaeformis</i>	FOCI Species	✓ * 5	✓	✓	One of only two replicates within national network	Maintain	This has not met ENG guidelines for replication; however, it cannot be met in this region as the feature is not present in any other locations. This site is critical to replication guidelines.	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.

Sunset cup coral <i>Leptopsammia pruvoti</i>	FOCI Species	✓	✓	✓	None	Maintain		Rare / limited distribution at MCZ and UK level (K. Hiscock 2011)	Rare / limited distribution at MCZ and UK level. There are no records of this feature outside of the south-west (www.marlin.ac.uk, 2012).
Site considerations									
Connectivity				✓ * 8					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 9					
Areas of Additional Ecological Importance				✓ * 10					
Overlaps with existing MPAs				✓ * 11					

Additional comments:

- ¹ Viability for the Subtidal BSH listed above is dependent on a minimum diameter (5km). Individually, the sites in Isles of Scilly do not meet this, however the mosaic of 11 spatially separated areas which are embedded in the Isles of Scilly SAC (with the exception of the Bristows to the Stones area), as a collective, are considered to be ecologically viable (using Natural England expert opinion). The sites are highly unique and the Isles of Scilly are ecologically distinct and geographically separated from the UK mainland. (Lieberknecht, et al. 2011)
- ² Conservation objective for the FOCI habitat Fragile sponge and anthozoan communities on subtidal rocky habitat in the Isles of Scilly, is ‘maintain’, apart from in the Bristows to the Stones, where it has a conservation objective of ‘recover’.
- ³ Viability: due to the Isles of Scilly sites being an archipelago, it is very difficult to meet the ENG guidelines for BSH viability of 5km for the intertidal features.
- ⁴ The BSH Intertidal mud does not occur in any of the Isles of Scilly sites. (Natural England pers comms). It is recommended that this is removed from the listing. This BSH is listed in at least nine other rMCZs and other MPAs so this will not have any implications on reaching the ENG criteria for adequacy and replication.
- ⁵ Replication has not been met for FOCI habitat Tide-swept channels, and FOCI species *Caecum armoricum* and *Cruoria cruoriaeformis*. However, none of these can be met as features are not present in any other locations, so the target is met.
- ⁶ The Minimum replication target is only just met for FOCI species *Lucernariopsis cruxmelitensis*, *Amphianthus dohrnii*, and *Palinurus elephas*.

- ⁷ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ⁸ The Isles of Scilly are important in meeting connectivity criteria in the Finding Sanctuary regional MCZ project Area.
- ⁹ The Isles of Scilly sites boundaries have been revised by the Isles of Scilly local group (Spring 2012) to comply with ENG guidelines.
- ¹⁰ Due to their geographical location and the oceanic nature of the surrounding seas, the Isles of Scilly is an area of high productivity and exceptional biodiversity (Lieberknecht, et al. 2011)
- ¹¹ The Isles of Scilly rMCZ sites, all lie within the existing Isles of Scilly marine SAC. There is scientific value as there has been considerable research on the marine environment.
- The Isles of Scilly also support a population of grey seals (Sayer, et al. (In press)), and significant numbers of sea birds, which both rely on a healthy marine environment for feeding.
- ¹² The ENG ((Natural England and the Joint Nature Conservation Committee 2010) Table 6) lists BSH for which replication, viability and connectivity guidelines will be used to meet the principles of adequacy, and that all of these (except BSH Deep-sea bed) should be assessed through assigned component FOCI habitats. For BSH Subtidal macrophyte-dominated sediment, this is seagrass beds. Replication, viability and adequacy are met for this component FOCI habitat.
- ¹³ The FOCI species *Caecum armoricum* is unlikely to be found in the Isles of Scilly, and its listing in this site, is likely to be a mistake and should be removed.

Suggested amendments

- ⁴ The BSH Intertidal mud does not occur in any of the Isles of Scilly sites. **It is recommended that this is removed from the listing.**
- ⁵ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**
- ¹³ The FOCI species *Caecum armoricum* is unlikely to be found in the Isles of Scilly, **and its listing in this site, is likely to be a mistake and should be removed.**

Summary of site benefits:

- The Isles of Scilly sites rMCZ is unique, as it is well supported by local stakeholders, contributes to many ENG guidelines, and covers areas of reef (Irving and Northen 2012 in press) habitat that are of exceptional quality. (SAD in (Lieberknecht, et al. 2011)).
- The Isles of Scilly sites went through considerable negotiation with local input, and as a result the sites have reached 100% consensus and support, which needs to be considered.
- The Isles of Scilly are an area of exceptionally high biodiversity (both species and habitat). (SAD in (Lieberknecht, et al. 2011)).
- The site includes the only south-west records of tide-swept (Gall 2011) communities.
- The Isles of Scilly provide ideal conditions for some of the most extensive and diverse beds of seagrass beds *Zostera marina* found in the UK (Jackson, et al. 2011)).
- These BSH and FOCI habitats support a large range of FOCI species and areas of importance for sea horses. Both species of seahorse (*Hippocampus hippocampus* and *Hippocampus guttulatus*) are found in the Isles of Scilly (SAD in (Lieberknecht, et al. 2011)).
- The Isles of Scilly also has a high diversity of seaweeds; probably about 40% of UK seaweed total (Brodie, et al. 2007).
- There are records of the FOCI *Grateloupia montagnei* within the Isles of Scilly sites (Smith Sound Tide-Swept Channel).
- The south-westerly position of the islands leads to a range of warm water species being present (SAD in (Lieberknecht, et al. 2011)).
- The Isles of Scilly's have been well studied for their intertidal and shallow sublittoral biota, and are considered to be exceptionally rich in biodiversity, as well as representative of exceptionally high-quality examples of a range of habitats (SAD in (Lieberknecht, et al. 2011)).
- The largest concentration of records of the stalked jellyfish *Lucernariopsis campanulata* are found in the Isles of Scilly (SAD in (Lieberknecht, et al. 2011)).
- There is strong evidence underpinning the site recommendations, primarily due to a combination of historical data and recent evidence supplied by the Isles of Scilly Wildlife Trust, including photographic records, which accompany the Final Recommendations (Lieberknecht, et al. 2011).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).
- Subtidal macrophyte-dominated sediment is characterised by high species diversity reliant on rich algal habitats such as kelp, subtidal seagrass beds (*Zostera marina*), or accumulations of maerl. These habitats provide for high rates of productivity, and the range of complex habitats for a range of niches for species covering all trophic levels (Fletcher, et al. 2012).

- Subtidal seagrass beds (*Zostera marina*) have high rates of primary production and also provide food for grazing overwintering wildfowl. They provide shelter or a substrate for a wide range of species including cuttlefish which use eelgrass to lay their eggs on. The dissipation of wave and tidal current energy by seagrasses and the sediment stability provided by the binding effect of their roots/ rhizomes gives them an important role in preventing and reducing coastal erosion. Seagrass beds also aid in the regulation of pollution through its take up of inorganic nutrients (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK. This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- If the sites are not taken forward for designation, there would be implications for maintaining support in future consultations and stakeholder input to marine designations processes in the Isles of Scilly. This is due to the huge amount of effort put in by the community, and resulting consensus and support (100%) for these sites. Designating these sites would provide a sense of achievement and ownership for the local community, necessary in such a remote and unique marine environment.
- The higher levels of protection suggested by the Isles of Scilly local group to the 'non-ground disturbance areas' in Tean Sound and Smith Sound, and the wider marine benefits that this would bring (in conjunction with the opportunity that this provides for further research) would be lost.
- If the sites are not taken forward the exceptionally high biodiversity of the intertidal areas on the Isles of Scilly would not be protected in any MPAs, as they are currently not included within the marine SAC or SSSI designations.
- If these sites are not taken forward for designation there would be no examples of 'tide-swept channels' and 'peat and clay exposures' protected by MCZs within the regional project area.
- *Palinurus elephas*, *Gobius cobitis* and *Haliclystus auricula*: These features are not protected in any existing MPAs within the SW region, therefore, MCZ designation is needed to meet the minimum ENG guidelines for replication.
- Replication guidelines would not be met for *Lucernariopsis campanulata*, *Lucernariopsis cruxmelitensis*, *Amphianthus dohrnii*, *Caecum armoricum*, and *Cruoria cruoriaeformis*.

Site name: rMCZ 37 Newquay and the Gannel rMCZ (Finding Sanctuary) (Natural England lead)

Table 173 An overview of features proposed for designation within Newquay and the Gannel and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guideline s	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
A5.3 Subtidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	✓ * 1	None	Maintain		Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	

A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	✓	✓ * 1	None	Maintain		Important for connectivity relating to salt marsh along north coast of the SW peninsula	
A1.1 High energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 2	✓ * 1	None	Maintain			
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	X	X * 4	None	Maintain		Important for connectivity relating to <i>Eunicella verrucosa</i> along north coast of the SW peninsula	

Giant goby <i>Gobius cobitis</i>	FOCI Species	✓	✓	✓	None	Maintain	Species only included within SW rMCZs. One of only four replicates for this species	Important for connectivity relating to <i>Gobius cobitis</i> around the SW peninsula	Only south -west sites are proposed for this species. No examples in other regions.
Native oyster <i>Ostrea edulis</i>	FOCI Species	✓	✓	✓	None	Maintain			
Sea snail <i>Paludinella littorina</i>	FOCI Species	✓	✓	✓	None	Maintain	Predominantly represented in SW sites – only one replicate outside Finding Sanctuary area.		Predominantly represented in SW sites – only one replicate outside Finding Sanctuary area.
European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	<i>Maintain/Recover</i> * 6	This feature is not protected in any existing MPAs within the SW region. This FOCI is currently only reaching the minimum replication target	The eel is a UK BAP priority species and IUCN red data book listed.	The eel is a UK BAP priority species and IUCN red data book listed.
Site considerations									
Connectivity				✓ * 3					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 5					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ Due to the linear nature of the coastline this rMCZ meets the minimum viable size through its maximum diameter only.
- ² The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ³ This site is particularly important for connectivity within the Finding Sanctuary regional project area.
- ⁴ Not viable within MCZ size, but important for maintaining connectivity between reef areas along north coast of SW peninsula.
- ⁵ Site is highlighted as an area of high biodiversity for species richness by MB102 (ABPmer 2009a).
- ⁶ At the time of the vulnerability assessment meetings, no decision was taken whether the conservation objective for this feature should be 'maintain' or 'recover'

Suggested amendments:

- ² The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- Site is highlighted as an area of high biodiversity for species richness by MB102 (ABPmer 2009a).
- The site includes estuarine area which are generally known to be high productivity and important as fish nursery grounds and bird feeding areas.
- Only a small proportion (<1%) of BSHs subtidal coarse sediment and subtidal sand are currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of these features in this region.
- Anecdotal evidence suggests short-snouted seahorses *Hippocampus hippocampus* have been recorded in the area.
- Subtidal sediment, including coarse sediment and sand, provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are “critical components to future carbon management discussions and strategies” (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion.
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation a very important site for connectivity to the Finding Sanctuary regional project areas would be lost. This site is particularly important in the SW peninsula for salt marsh, pink seafan *Eunicella verrucosa* and giant goby *Gobius cobitis*.

Site name: rMCZ 38 Padstow Bay and surrounds MCZ (Finding Sanctuary) (Natural England lead)

Table 174 An overview of features proposed for designation within Padstow Bay and surrounds rMCZ, and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓	None	Maintain	This BSH is currently only reaching the minimum adequacy target.	This site is key in meeting connectivity in FS Regional Project Area	
A4.2 Moderate energy circalittoral rock	BSH	✓ * 2	✓	✓	None	Maintain	This BSH is currently only reaching the minimum replication target.	This site is key in meeting connectivity in FS Regional Project Area	
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A4.1 High energy circalittoral rock	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	

A3.1 High energy infralittoral rock	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A1.1 High energy intertidal rock	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A2.3 Intertidal mud⁴	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 4	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
Ocean quahog <i>Arctica islandica</i>	FOCI Species	✓	✓	✓	None	Maintain		Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	✓	✓	None	Maintain			This feature has a limited national distribution.

Stalked jellyfish <i>Haliclystus auricula</i>	FOCI Species	✓	✓	✓	None	Maintain	This feature is not protected in any existing MPAs within the SW region		
Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	FOCI Species	✓ * 3	✓	✓	None	Recover	This feature is not protected in any existing MPAs within the SW region. This FOCI is currently only reaching the minimum replication target.	Rare / limited distribution at MCZ and UK level.	Rare / limited distribution at MCZ and UK level.
Spiny lobster <i>Palinurus elephas</i>	FOCI Species	✓ * 3	✓	✓	None	Maintain	This feature is not protected in any existing MPAs within the SW region. This FOCI is currently only reaching the minimum replication target.	There is evidence that <i>Palinurus elephas</i> is in unfavourable condition in all SW waters.	There is evidence that <i>Palinurus elephas</i> is in unfavourable condition in all SW waters. It has a limited distribution nationally.
Bottlenose Dolphin <i>Tursiops truncatus</i>	N/A	N/A	N/A	N/A	N/A	Maintain			This species is a UK BAP priority species.

Fulmar <i>Fulmarus glacialis</i>	N/A	N/A	N/A	N/A	N/A	Maintain	There are few sites where non-ENG features have been proposed.	This site would provide a seaward extension to the Pentire Peninsular SSSI, therefore providing protection for loafing and feeding areas of the species.	
Guillemot <i>Uria aalge</i>	N/A	N/A	N/A	N/A	N/A	Maintain	There are few sites where non-ENG features have been proposed.	This site would provide a seaward extension to the Pentire Peninsular SSSI	
Puffin <i>Fratercula arctica</i>	N/A	N/A	N/A	N/A	N/A	Maintain	There are few sites where non-ENG features have been proposed.	This site would provide a seaward extension to the Pentire Peninsular SSSI	
Razorbill <i>Alca torda</i>	N/A	N/A	N/A	N/A	N/A	Maintain	There are few sites where non-ENG features have been proposed.	This site would provide a seaward extension to the Pentire Peninsular SSSI	
Kittiwake <i>Rissa tridactyla</i>	N/A	N/A	N/A	N/A	N/A	Maintain	There are few sites where non-ENG features have been proposed.	This site would provide a seaward extension to the Pentire Peninsular SSSI	
Site considerations									
Connectivity				✓ * 5					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Area of Additional Ecological Importance				✓ * 6					
Overlaps with existing MPAs				✓ * 7, 8					

Additional comments:

- ¹ Adequacy for the BSH Subtidal coarse sediment is only just met in the Finding Sanctuary region. The target percentage of area included is 17.2% and therefore just about at the minimum (17–38% required).
- ² Replication is only just met for BSH Moderate energy circalittoral rock.
- ³ FOCI species *Lucernariopsis cruxmelitensis* and *Palinurus elephas* are only at their minimum for replication in the Finding Sanctuary region.
- ⁴ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ⁵ This site is between Hartland Point to Tintagel, and Newquay and the Gannel which are only approximately 40km apart.
- ⁷ Adjacent to Pentire Peninsula SSSI for seabird colonies. The caves within the SSSI are used by grey seal colonies for breeding.

Suggested amendments:

- ⁴ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- ⁶ The rMCZ also encompasses Moul's Island and its surroundings, which is an area of productive tidal fronts and a particularly rich area for marine seabirds, dolphin spp., harbour porpoise and basking sharks.
- ⁸ The rMCZ arches around coastal areas which are important seabird colony areas (SSSI designated). The rMCZ designation will allow protection for those seabirds when feeding at sea.
- Finding Sanctuary have suggested adding (and made conservation objectives for), a number of non-ENG mobile species including the Bottlenose dolphin (*Tursiops truncatus*), Fulmars (*Fulmarus glacialis*), Guillemots (*Uria aalge*), Puffins (*Fratercula arctica*), Razorbills (*Alca torda*), and kittiwakes (*Rissa tridactyla*) as the area is particularly rich for these species.
- The area intersects with a higher than average benthic species and habitat diversity area (within the south-west context) (SAD in (Lieberknecht, et al. 2011)).
- The rich marine flora and fauna here attracts tourists through boat rides to see birds and other marine life.

- The site intersects with polygonal data which the Seahorse Trust provided to Finding Sanctuary, indicating the stretches of the south-west coastline along which one or both species of seahorse are found.
- Sediment habitats are ecologically important. Some support sand eel which support seabirds such as puffin, razorbills and guillemots; and others bivalves and other infauna which support wading birds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012)
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries (Fletcher, et al. 2012).

Implications of the site not being designated:

- The minimum area target percentage of the BSH Subtidal coarse sediment would not be met in the region, even though replication remains high.
- The FOCl species stalked jellyfish (*Lucernariopsis cruxmelitensis*) would only have two replicates in the Finding Sanctuary region.
- Certain marine mammal and seabird species, which are features of conservation importance, would not be protected here. Although MCZs do not have to be identified for these species, this is one of only a few sites which has been suggested to provide additional protection for these species.

Site name: rMCZ 39 The Camel (Finding Sanctuary) (Natural England lead)

Table 175 An overview of features proposed for designation within The Camel and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Coastal salt marshes and saline reedbeds	BSH	✓	✓	✓ * 1	None	Maintain			
Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain			
Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain			
Estuarine rocky habitats	FOCI Habitat	✓	✓	✓ * 1	None	Maintain			
European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	<i>Maintain/ Recover</i> * 5	This feature is not protected in any existing MPAs within the SW region, therefore, MCZ designation is needed to meet the minimum ENG target for replication	The eel is a UK BAP priority species and IUCN red data book listed.	The eel is a UK BAP priority species and IUCN red data book listed.

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	None
Appropriate boundary	✓ * ²
Area of Additional Ecological Importance	✓ * ³
Overlaps with existing MPAs	✓ * ⁴

Additional comments:

- ¹ Although this rMCZ does not meet the minimum viable size for BSHs in diameter (5km minimum), this is met in linear length. Due to the natural geographic boundary of the estuary it is therefore considered viable (using Natural England expert judgement).
- ² The boundary follows the ENG, however, it excludes the lower estuary, and this will potentially weaken the ecological functioning and connectivity of the estuary. It is recognised however, that this region was excluded to reduce potential conflict with anthropogenic activities, and any boundary changes could reduce stakeholder support for the site.
- ³ Estuaries serve a wider ecological importance in terms of productivity and their ecological function as nursery areas.
- ⁴ The upstream portion of this rMCZ overlaps with the River Camel Valley and Tributaries SSSI.
- ⁵ At the time of the vulnerability assessment meetings, no decision was taken whether the conservation objective for this feature should be ‘maintain’ or ‘recover’

Summary of site benefits:

- Estuaries serve a wider ecological importance in terms of productivity and their ecological function as nursery areas.
- The Camel has a large range of estuarine communities, for example, variable salinity rock community, with considerable local nature conservation importance (J. Davies 1998).
- Detailed evidence/data to demonstrate the important fish nursery area function of the Camel estuary and their supporting FOCI habitats of mudflats and salt marsh has been provided to the regional project (SAD in (Lieberknecht, et al. 2011)).
- Water quality has been classified as grade A (Buck 1997).
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are “critical components to future carbon management discussions and strategies” (Fletcher, et al. 2012).

- Intertidal mud is a highly productive ecosystem and is an important feeding ground for wading and migratory birds that is available all year round. This habitat plays a crucial role in primary biomass production through the biofilm made up of microalgae at the air-mud interface. Intertidal mudflats are desirable areas for carbon storage due to the higher sedimentation rates than some other habitats such as freshwater wetlands (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not taken forward for designation there would be limited site based protection afforded to the European eel *Anguilla anguilla*.
- Additionally, connectivity would be compromised along the north coast of Cornwall for estuarine habitats.

Site name: rMCZ 40 Hartland Point to Tintagel rMCZ (Finding Sanctuary) (Natural England lead)

Table 176 An overview of features proposed for designation within the Hartland Point to Tintagel rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓	✓	✓	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the largest area of high energy intertidal rock	This site is key in meeting connectivity in FS Regional Project Area	Out of all the rMCZs in the project area, this site contributes the largest area of high energy intertidal rock
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the largest area of intertidal coarse sediment	This site is key in meeting connectivity in FS Regional Project Area	Out of all the rMCZs in the project area, this site contributes the largest area of intertidal coarse sediment

A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 1	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A2.3 Intertidal mud	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A2.4 Intertidal mixed sediments	BSH	✓	✓ * 2	✓	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the largest area of intertidal mixed sediments. This site is needed to meet the lower level adequacy target for this feature within the FS MCZ area	This site is key in meeting connectivity in FS Regional Project Area	Out of all the rMCZs in the project area, this site contributes the second largest area of intertidal mixed sediments
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	N/A	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A3.1 High energy infralittoral rock	BSH	✓	✓	✓	None	Maintain		This site is key in meeting connectivity in FS Regional Project Area	
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	

A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain		Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	✓	✓ * 3	None	Maintain			BAP and WCA species
Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	✓ * 4	✓	✓ * 4	None	Maintain			BAP habitat
Peacock's tail <i>Padina pavonica</i>	FOCI Species	✓ * 5	✓	✓ * 6	None	Maintain	This FOCI is currently only reaching the minimum replication target.	This feature is not protected within existing MPAs within the FS area	BAP species
Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI species	✓	✓	✓ * 7	None	Maintain			BAP species
Site considerations									
Connectivity				✓ * 9					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 8					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ² This site is needed to meet the lower level adequacy target for intertidal mixed sediments within the FS MCZ area.
- ³ Viability for FOCI species *Eunicella verrucosa* requires a minimum patch diameter of 5km. A 5km area encompassing the record is possible within the rMCZ.
- ⁴ Viability for FOCI habitat Fragile sponge and anthozoan communities on subtidal rocky habitat requires a minimum patch diameter of 0.5km. A 500m area encompassing the record is possible within the rMCZ.
- ⁵ This feature (*Padina pavonica*) only has the minimum amount of replicates.
- ⁶ Viability for FOCI species *Padina pavonica* requires a minimum patch diameter of 0.5km. A 500m area encompassing the record is possible within the rMCZ.
- ⁷ Viability for FOCI habitat *Sabellaria alveolata* reefs requires a minimum patch diameter of 0.5km. A 500m area encompassing the record is possible within the rMCZ.
- ⁸ This site may be important for porbeagle sharks (SAD in (Lieberknecht, et al. 2011)).
- ⁹ This site is critical for connectivity along the north coast of Devon and Cornwall, which currently has no MPAs other than Lundy.

Suggested amendments:

- ¹ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- Out of all the rMCZs in the FS area, this site contributes the largest area of high energy intertidal rock, intertidal mixed sediments and intertidal coarse sediments.
- Out of all the rMCZs in the project area, this site contributes the largest area of high energy intertidal rock and intertidal coarse sediments, and the second largest area of intertidal mixed sediments.
- Only a small proportion (<1%) of BSH subtidal coarse sediment and BSH subtidal sand are currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of this feature in this region. This site contains the second largest area of this feature within the inshore area.
- This site is one of only three proposed for *Padina pavonica*.
- The site intersects with an area of higher than average benthic diversity (SAD in (Lieberknecht, et al. 2011)).
- The site contains notable *Sabellaria alveolata* reefs. Their importance has been highlighted by several scientists from the Marine Biological Association (pers comm). They have been described in scientific literature as 'exceptionally fine' (SAD in (Lieberknecht, et al. 2011)).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK. This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion.
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries (Fletcher, et al. 2012).
- Intertidal mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos (Fletcher, et al. 2012).
- *Sabellaria alveolata* biogenic reefs have been known to have an important trophic role as a primary consumer of phytoplankton through filtering large volumes of water, contributing to improved water quality. Biogenic reefs provide a hard substrate and range of microhabitats for colonisation by other organisms. They also provide a significant amount of resistance to wave energy, contributing to coastal protection (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated, the lower level target for adequacy for intertidal mixed sediments and subtidal coarse sediment will not be met within the FS MCZ area.
- If this site is not designated, the replication target will not be met for *Padina pavonica*.
- If this site was not designated, there would be a gap in site connectivity along the north coast of Devon and Cornwall, with a large stretch of the North Cornwall coastline entirely unprotected.
- If this site was not designated, the most notable examples of *Sabellaria alveolata* reef, described in scientific literature as 'exceptionally fine' would be unprotected.

Site name: rMCZ 41 Lundy MCZ (and rRA 13 Lundy) (Finding Sanctuary) (Natural England lead)

Table 177 An overview of features proposed for designation within Lundy MCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Mud habitats in deep water	FOCI Habitat	✓ * 1	✓	✓ * 2	None	Recover	This FOCI is currently only reaching the minimum replication target.	Many records of this feature in the MCZ. This feature is not protected within the existing MPAs within the FS area. This feature has limited distribution in the FS area	BAP
Spiny lobster <i>Palinurus elephas</i>	FOCI Species	✓ * 1	✓	✓ * 3	This site has not met the ENG target for viability	Recover	This FOCI is currently only reaching the minimum replication target.	This feature is not protected within existing MPAs with the FS area. There is evidence that <i>Palinurus elephas</i> is in unfavourable condition in all SW waters. It has a limited distribution nationally. BAP	BAP This feature has limited distribution in the whole MCZ area.

Manx shearwater <i>Puffinus puffinus</i>	Non-ENG	N/A	N/A	N/A	N/A	Maintain			
Common guillemot <i>Uria aalge</i>	Non-ENG	N/A	N/A	N/A	N/A	Maintain			
Razorbill <i>Alca torda</i>	Non-ENG	N/A	N/A	N/A	N/A	Maintain			
Atlantic puffin <i>Fratercula arctica</i>	Non-ENG	N/A	N/A	N/A	N/A	Maintain			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 4, 5, 6, 7, 8					
Overlaps with existing MPAs				✓ * 9					

Table 178 rRA 13 Lundy (Finding Sanctuary) (Natural England lead) within rMCZ 41. An overview of features proposed for designation within the Lundy recommended reference area and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Moderate energy circalittoral rock	BSH	X * 10, 11	Recover to reference condition
Moderate energy infralittoral rock	BSH	X * 10	Recover to reference condition
Subtidal coarse sediment	BSH	X * 10	Recover to reference condition
Subtidal sand	BSH	X * 10	Recover to reference condition
Fragile sponge and anthozoan communities on subtidal rocky habitats	FOCI Habitat	✓	Recover to reference condition
Mud habitats in deep water	FOCI Habitat	X * 12	Recover to reference condition
Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI Species	✓ * 13	Recover to reference condition
Sunset cup coral <i>Leptopsammia pruvoti</i>	FOCI Species	✓	Recover to reference condition
Common maerl <i>Phymatolithon calcareum</i>	FOCI Species	✓	Recover to reference condition
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	X * 14	Recover to reference condition
Spiny lobster <i>Palinurus elephas</i>	FOCI Species	X * 15	Recover to reference condition
Site considerations			
Appropriate boundary		X	

Additional comments:

- ¹ FOCI habitats Mud habitats in deep water, and FOCI species *Palinurus elephas* are at the minimum recommended number of three replicates. Mud habitats in particular have a very limited distribution within the SW with only two sites in rMCZs (one of which overlaps with a recommended reference area), plus one other in an recommended reference area.
- ² Viability for the BSH Mud habitats in deep water is dependent on a minimum criteria (5km²) which is only just under at this site (approx 7.5 x 4.5km but includes Lundy Island). However site is located within the SAC which does protect these features (reefs, seacaves and subtidal sandbanks), so is considered viable.
- ³ Viability for the FOCI species *Palinurus elephas* is dependent on patch diameter (5km) which is only just under at this site (approx 7.5 x 4.5km (but includes Lundy Island). However the site is located within the SAC which does offer protection to habitats which support these features, these features (reefs, seacaves and subtidal sandbanks), so considered viable.

- ⁴ Lundy's unique geography contributes to the existence of a range of sheltered and wave exposed conditions which are also conducive for a wide variety of species to thrive.
- ⁵ Warm southern currents meet cooler northern waters creating ideal conditions for a diverse and thriving marine environment. The variety of different marine habitats is unusual for such a small area and attracts a wealth of marine creatures. Some species found around Lundy are currently at the northern most extent of their range.
- ⁷ MB102 data highlighted the waters around Lundy as a 'biotope richness hotspot'.
- ⁸ Basking shark sightings have been common in the waters around Lundy, but in recent years there has been a sharp decline in recorded sightings (Natural England local knowledge).
- ⁹ Lundy rMCZ boundary corresponds exactly with the existing SAC boundary which provides protection for its designated features (grey seal, subtidal reefs, sandbanks and sea caves). The recommended reference area corresponds exactly with the existing No Take Zone boundary which has been in place since 2003 under an IFCA byelaw.

Additional comments for the recommended reference area:

- **rRA 13**:⁶ Due to the fact that this recommended reference area is encompassed within a wider, established MPA, it has an increased likelihood of achieving its conservation objectives of recovering to reference condition.
- **rRA 13**:¹⁰ Viability for the BSH Moderate energy circalittoral rock, Moderate energy infralittoral rock, Subtidal coarse sediment, Subtidal sand is dependent on a minimum criteria (5km²) which is not met for the recommended reference area (approx 3.5 x 1km) so considered to be unviable. The recommended reference area is within the rMCZ and the SAC which does protect these features (reefs, seacaves and subtidal sandbanks). Regardless, the recommended reference area should be increased to meet minimum viability, though this may have implications for stakeholder support.
- **rRA 13**:¹¹ Adequacy guidelines have just been met for moderate energy circalittoral rock across the region. This feature does not meet the ENG viability criteria within the recommended reference area boundary, but the site is located within the SAC which does protect these features (reefs, seacaves and subtidal sandbanks) and is just under the viable size.
- **rRA 13**:¹² Viability for the BSH Mud habitats in deep water is dependent on a minimum criteria (5km²) which is not met in the recommended reference area (approx 3.5 x 1km). The site is located within the rMCZ which does protect this features, but the recommended reference area should be increased to improve viability though this may have implications for stakeholder support
- **rRA 13**:¹³ This site is critical to the achievement of replication guidelines for FOCl species *Amphianthus dohrnii*.
- **rRA 13**:¹⁴ Viability for the FOCl species *Eunicella verrucosa* is dependent on patch diameter (5km) which is not met at this site.
- **rRA 13**:¹⁵ Viability for the FOCl species *Palinurus elephas* is dependent on a minimum patch diameter (5km) which is not met in the recommended reference area (approx 3.5 x 1km) so not considered viable. The site is located within the SAC which does protection this feature, but the recommended reference area should be increased to improve viability though this may have implications for stakeholder support.
- *Amphiantus dohrnii*, *Leptosammia pruvoti*, *Eunicella verrucosa* and *Palinurus elephas* are all UK BAP species.

- **rRA 13:** Fragile sponge and anthozoan communities on subtidal rocky habitats is a UK BAP habitat which is in decline, contains key species and is classed as a 'functional habitat'.

Suggested amendments:

- **rRA 13 :** ¹⁰ Viability for the BSH Moderate energy circalittoral rock, Moderate energy infralittoral rock, Subtidal coarse sediment, Subtidal sand is dependent on a minimum criteria (5km²) which is not met for the recommended reference area (approx 3.5 x 1km) so considered to be unviable. **The recommended reference area is within the rMCZ and the SAC which does protect these features (reefs, seacaves and subtidal sandbanks). Regardless, the recommended reference area should be increased to meet minimum viability, though this may have implications for stakeholder support.**
- **rRA 13 :** ¹² Viability for the BSH Mud habitats in deep water is dependent on a minimum criteria (5km²) which is not met in the recommended reference area (approx 3.5 x 1km). **The site is located within the rMCZ which does protect this features, but the recommended reference area should be increased to improve viability though this may have implications for stakeholder support**
- **rRA 13:** ¹⁵: Viability for the FOCI species *Palinurus elephas* is dependent on a minimum patch diameter (5km) which is not met in the recommended reference area (approx 3.5 x 1km) so not considered viable. **The site is located within the SAC which does protection this feature, but the recommended reference area should be increased to improve viability though this may have implications for stakeholder support.**

Summary of site benefits:

- This site offers protection to FOCI species *Palinurus elephas* which is not protected in any existing MPAs within the SW region, and there is evidence that *Palinurus elephas* is in unfavourable condition in all SW waters. *Palinurus elephas* has limited distribution in the whole MCZ area and the only proposed sites nationally all occur in the FS region.
- The site has been well surveyed for over 60 years resulting in a unique understanding of Lundy's marine life and environment. Several long surveys are now established, and the data held by Natural England and others provides an excellent baseline to compliment future work. Due to the site's relatively low exposure to anthropogenic influences (and the existence of an established NTZ) the site is an important control site for surveys being carried out on similar habitats elsewhere.
- Existing compliance with the marine conservation designations is very good and there is wide stakeholder support for designation of the recommended features within the MCZ. The presence of wardens on the island also aids enforcement of management measures.
- Interpretation facilities and material well developed.
- Lundy has a high profile for marine conservation, nationally and internationally. It is a flagship site for marine conservation in the UK.
- Well-developed relationships with key stakeholders exist.
- Fragile sponge and anthozoan communities on subtidal rocky habitats: UK BAP habitat which is in decline, contains key species and is classed as a 'functional habitat'.

- *Amphianthus dohrnii* (recommended reference area): Rare / limited distribution at MCZ and UK level. BAP species (BRIG (ed. Ant Maddock) 2008).
- *Leptosammia pruvoti*: Rare / Limited Distribution (BRIG (ed. Ant Maddock) 2008).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012) .
- As well as playing an important role in biogeochemical recycling, Deep water mud habitats are usually particularly stable supporting unique sea pen habitats, which support benthic invertebrates which are a major dietary component of commercially targeted fish and shellfish species (e.g. amphipod, decapods, polychaetes and echinoderms dominate Atlantic cod diet). Seapens and burrowing megafauna activity also play a role in providing habitat for smaller organisms (Fletcher, et al. 2012).

Implications of the site not being designated:

- Exclusion of this site (recommended reference area and rMCZ is 1 replicate) will mean that the network does not meet the ENG replication target for FOCI habitat Mud habitats in deep water.
- The Lundy MCZ and recommended reference area represent the most westerly of the three sites with *Palinurus elephas* on the north coast of Devon and Cornwall, which has a limited distribution. Therefore it is important for connectivity, and critical to achieving replication targets. .
- **rRA**: This site is critical to the achievement of replication guidelines for the FOCI species *Amphianthus dohrnii*.
- **rRA**: This is 1 of only two replicates in the FS area for the FOCI species *Phymatolithon calcareum*, so replication is already not met.

Site name: rMCZ 42 Taw Torridge Estuary rMCZ (Finding Sanctuary) (Natural England lead)

Table 179 An overview of features proposed for designation within the Taw Torridge Estuary rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 2	None	Maintain			
A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 2	None	Maintain			
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 1	✓ * 2	None	Maintain			
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	N/A	✓ * 2	None	Maintain	Out of all the rMCZs in the FS are, this site contributes the second largest area of coastal salt marshes and saline reedbeds		

A5.2 Subtidal sand	BSH	✓	✓	✓ * 2	None	Maintain		Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
A5.3 Subtidal mud	BSH	✓	✓	✓ * 2	None	Maintain			
European eel <i>Anguilla anguilla</i>	FOCI Mobile species	✓	✓	N/A	None	<i>Maintain / Recover</i> * 3			BAP and OSPAR species
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				X * 4					
Areas of Additional Ecological Importance				X					
Overlaps with existing MPAs				✓ * 5					

Additional comments:

- ¹The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ² Although this rMCZ does not meet the minimum viable size for BSHs in diameter (5km minimum), this is met in linear length. Due to the natural geographic boundary of the estuary it is therefore considered viable (using Natural England expert judgement).
- ³ At the time of the vulnerability assessment meetings, no decision was taken whether the conservation objective for this feature should be ‘maintain’ or ‘recover’
- ⁴ This rMCZ does not cover the whole estuary unit but splits the site in two and only covers the upper reaches of the estuaries. Viability would be greatly improved if the entire estuary was contained.

- ⁵ This rMCZ overlaps with the upper reaches of the Taw Torridge Estuary SSSI, and extends further upstream to the tidal limit, so extends protection to the tidal limit. Unlike the rMCZ, The SSSI boundary includes the majority of the lower estuary to the mouth, but does not provide protection to the subtidal habitats. The rMCZ would be much more beneficial if it too was extended to the mouth of the estuary to provide additional protection to the SSSI but this could have socioeconomic impact implications.

Suggested amendments:

- ¹ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**
- ⁴ This rMCZ does not cover the whole estuary unit but splits the site in two and only covers the upper reaches of the estuaries. **Viability would be greatly improved if the entire estuary was contained.**

Summary of site benefits:

- Estuaries are important contributors to ecological productivity, and have an important function as nursery areas.
- Out of all the rMCZs in the FS area, this site contributes the second largest area of coastal salt marshes and saline reedbeds.
- Only a small proportion (<1%) of BSH subtidal sand is currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of these features in this region.
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are “critical components to future carbon management discussions and strategies” (Fletcher, et al. 2012).
- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos. Estuarine soft sediments support a diverse group of microscopic and macroscopic organisms (Fletcher, et al. 2012).
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not designated, a large area of coastal salt marsh and saline reedbed would not be protected within the MPA network.

Site name: rMCZ 43 Bideford to Foreland Point rMCZ (Finding Sanctuary) (Natural England lead)

Table 180 An overview of features proposed for designation within the Bideford to Foreland Point rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the second largest area of high energy intertidal rock		Out of all the rMCZs in the project area, this site contributes the second largest area of high energy intertidal rock
A1.2 Moderate energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the largest area of moderate energy intertidal rock		Out of all the rMCZs in the project area, this site contributes the second largest area of moderate energy intertidal rock
A1.3 Low energy intertidal rock	BSH	✓	✓	✓ * 1	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the largest area of low energy intertidal rock		

A2.1 Intertidal coarse sediment	BSH	✓	✓	✓ * 1	None	Maintain	Out of all the rMCZs in the FS area, this site contributes the second largest area of intertidal coarse sediment		Out of all the rMCZs in the project area, this site contributes the second largest area of intertidal coarse sediment
A2.2 Intertidal sand and muddy sand	BSH	✓	✓ * 2	✓ * 1	None	Maintain			
A2.3 Intertidal mud	BSH	✓	✓	✓ * 1	None	Maintain			
A2.4 Intertidal mixed sediments	BSH	✓	✓	✓ * 1	None	Maintain			
A3.1 High energy infralittoral rock	BSH	✓	✓	X	Viability not met, site less than 5km minimum diameter	Maintain	Out of all the rMCZs in the FS area, this site contributes the second largest area of high energy infralittoral rock		
A3.2 Moderate energy infralittoral rock	BSH	✓	✓	X	Viability not met, site less than 5km minimum diameter	Maintain	Out of all the rMCZs in the FS area, this site contributes the second largest area of moderate energy infralittoral rock		

A4.1 High energy circalittoral rock	BSH	✓	✓	X	Viability not met, site less than 5km minimum diameter	Recover			
A5.1 Subtidal coarse sediment	BSH	✓ * 3	✓	X	Viability not met, site less than 5km minimum diameter	Maintain	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
A5.2 Subtidal sand	BSH	✓	✓	X	Viability not met, site less than 5km minimum diameter	Maintain		Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
Pink sea-fan <i>Eunicella verrucosa</i>	FOCI Species	✓	X	X	Viability not met, patch less than 5km minimum diameter	Maintain			BAP and WCA species
Sea snail <i>Paludinella littorina</i>	FOCI Species	✓	✓	✓	None	Maintain			OSPAR and WCA species
Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	✓	✓	✓ * 4	None	Maintain			BAP habitat
Common guillemot <i>Uria aalge</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			OSPAR species

Razorbill <i>Alca torda</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			
Harbour porpoise <i>Phocoena phocoena</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			BAP, OSPAR and WCA species
Grey seal <i>Halychoerus grypus</i>	Non-ENG feature	N/A	N/A	N/A	N/A	Maintain			
Site considerations									
Connectivity				✓ * ⁵					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * ⁶					
Overlaps with existing MPAs				✓ * ⁷					

Additional comments:

- ¹ The intertidal BSHs within this rMCZ do not reach the minimum viability criteria (5km), however due to the linear nature of the intertidal area, they are considered viable through their maximum diameter only.
- ² The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. At this site, sandy beaches were incorrectly classified as sand and mud habitats.
- ³ This BSH subtidal coarse sediment is currently only reaching the minimum adequacy target
- ⁴ Viability for *Sabellaria alveolata* reefs requires a minimum patch diameter of 0.5km. A 500m area encompassing the record is possible within the rMCZ.
- ⁵ This site is critical for connectivity along the north coast of Devon and Cornwall, which currently has no MPAs other than Lundy.
- ⁶ This area has been identified as a hotspot for harbour porpoise (*Phocoena phocoena*) (Goodwin 2008).
- ⁷ This site overlaps slightly at its boundaries with Braunton Burrows SAC (designated for its dune system) and Taw Torridge Estuary SSSI.

Suggested amendments:

- ¹ The Environment Agency provided detailed intertidal habitat data to Finding Sanctuary to compliment the EUNIS Level 3 Broad Scale Habitat (BSH) maps from MB102. Due to inconsistencies in the classifications, the back translation of this data by the regional project to Eunis Level 3 BSH, has created instances where sand habitats were incorrectly reclassified as mud habitats ((Lieberknecht, et al. 2011) pg 1284). An estimation based on the area of sandy beaches known to be misclassified would mean that adequacy may only just be met for this BSH. **At this site, sandy beaches were incorrectly classified as sand and mud habitats.**

Summary of site benefits:

- Out of all the rMCZs in the FS region, this site contributes the largest area of low energy intertidal rock and moderate energy intertidal rock, and the second largest area of high energy intertidal rock, intertidal coarse sediment, intertidal coarse sediment, high energy infralittoral rock and moderate energy infralittoral rock.
- Out of all the rMCZs in the whole project area, this site contributes the second largest area of moderate energy intertidal rock.
- Only a small proportion (<1%) of the BSH subtidal coarse sediment and BSH subtidal sand is currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of this feature in this region.
- The site intersects with an area of higher than average benthic diversity (SAD in (Lieberknecht, et al. 2011)).
- Covers the existing VMCA, established to help raise awareness of the diversity of coastal wildlife.
- This site has been highlighted as a hotspot for harbour porpoise (*Phocoena phocoena*), where they have been found to aggregate in the area of high tidal flow at Morte Point (Goodwin 2008)
- This site contains a diverse range of littoral habitats that are currently unprotected along the north coast of Devon and Cornwall.
- This rMCZ contains areas studied by in the Victorian era. More recent revisits shows the continued presence of a rich littoral fauna ((Hiscock, K. (ed.) 1998)).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Intertidal coarse sediment plays an important role in beach protection and provides feeding sites for wading birds at the strandline. It also attracts fish, which scavenge within the habitat providing a beneficial ecosystem service to both commercial and recreational fisheries (Fletcher, et al. 2012).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not designated, there would be a gap in site connectivity along the north coast of Devon and Cornwall, leaving the North Devon open coastline largely devoid of protection, apart from a site that extends a short distance over the Cornish border.

Site name: rMCZ 44 Morte Platform rMCZ (Finding Sanctuary) (Natural England lead)

Table 181 An overview of features proposed for designation within the Morte Platform rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.1 High energy circalittoral rock	BSH	✓	✓	✓	None	Maintain			
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Maintain			
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain	This BSH is currently only reaching the minimum adequacy target	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				X					
Overlaps with existing MPAs				None					

Additional comments:

- None.

Summary of site benefits:

- Morte Platform contains a mix of biotopes that is rarely represented elsewhere in the UK, according to the NBN database (SAD in (Lieberknecht, et al. 2011)). This is primarily due to the high tidal flows, high sediment content within the water column, and the mosaic of sediment and rock ridges.
- Morte Platform was described by (Mackie, et al. 2006) as having 'high species richness and abundance across the region'.
- Only a small proportion (<1%) of BSHs subtidal coarse sediment and subtidal sand are currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of these features in this region.
- Morte Platform is included in a comprehensive survey of the area by five research cruises (reported in (Mackie, et al. 2006) and more recently in 2010/11 by contractors working for RWE (Linnane 2011).
- The site contains higher than average benthic diversity and habitat diversity with the regional context (Lieberknecht, et al. 2011).
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site was not designated the rare mix of sediment and rock biotopes that occur due to the unusual physical characteristics of Morte Platform would not be protected.

Site name: rMCZ 45 North of Lundy (Atlantic Array Area) rMCZ (Finding Sanctuary) (Natural England lead)

Table 182 An overview of features proposed for designation within the North of Lundy (Atlantic Array Area) rMCZ and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Maintain			
A5.1 Subtidal coarse sediment	BSH	✓	✓ * 1	✓	None	Maintain	This BSH is currently only reaching the minimum adequacy target. This site is needed to meet the lower level target for this feature within the regional MCZ project area	Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain		Only a small proportion (<1%) of this BSH is currently protected within existing MPAs in the FS area	

A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Maintain			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				X					
Overlaps with existing MPAs				None					

Additional comments:

- ¹ Adequacy for subtidal coarse sediment is currently only reaching the minimum adequacy target. This site is needed to meet the lower level target for this feature within the regional MCZ project area.

Summary of site benefits

- Only a small proportion (<1%) of BSHs subtidal coarse sediment and subtidal sand area currently protected within existing MPAs in the FS area. Therefore, MCZs are critical for the protection of these features in this region. This site has contains the largest area of this feature within the inshore area.
- The site has been comprehensively surveyed by five research cruises (reported in (Mackie, et al. 2006)and more recently in 2010/11 by contractors working for RWE (Linnane 2011).
- The site contains higher than average benthic diversity and habitat diversity with the regional context (SAD in (Lieberknecht, et al. 2011)).
- The site includes an area of the South Outer Bristol Channel Sands described by (Mackie, et al. 2006) as having ‘very rich fauna and many colonial epifaunal species’.
- The site includes an area of Morte Platform described by (Mackie, et al. 2006) as having ‘high species richness and abundance across the region’.
- Co-location with an offshore windfarm is viewed by the SAP as potentially beneficial from a scientific point of view (Science Advisory Panel 2011a, Science Advisory Panel 2011b). The site has been highlighted as a possible ‘win-win’ on the basis that safety restrictions within a windfarm would in themselves protect the seafloor habitat. The developers of the Atlantic Array have made a statement to say they are supportive of the site (SAD in (Lieberknecht, et al. 2011)).
- Recent research shows that the site is used by marine mammals throughout the year. During year-long monitoring, there was no single day where cetaceans were not recorded. It is also potentially an important feeding ground for grey seals that haul out at Lundy SAC (Linnane 2011).

- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Circalittoral rock habitat communities are important secondary producers through growth of epibiotic organisms including sponges and tunicates. This habitat is characterised by high species diversity supporting a range of fauna including polychaetes, sponges, soft and hard corals, bryozoans as well as mobile species in more sheltered areas. These reefs support recreational industries, and commercial inshore fishing activity, particularly for crab and lobster (Fletcher, et al. 2012)

Implications of the site not being designated:

- If this site is not designated, the minimum adequacy target for subtidal coarse sediment will not be met.
- If this site is not designated, an area of very rich and diverse habitat will not be protected.

A5.1.5 Region 5 – Irish Sea

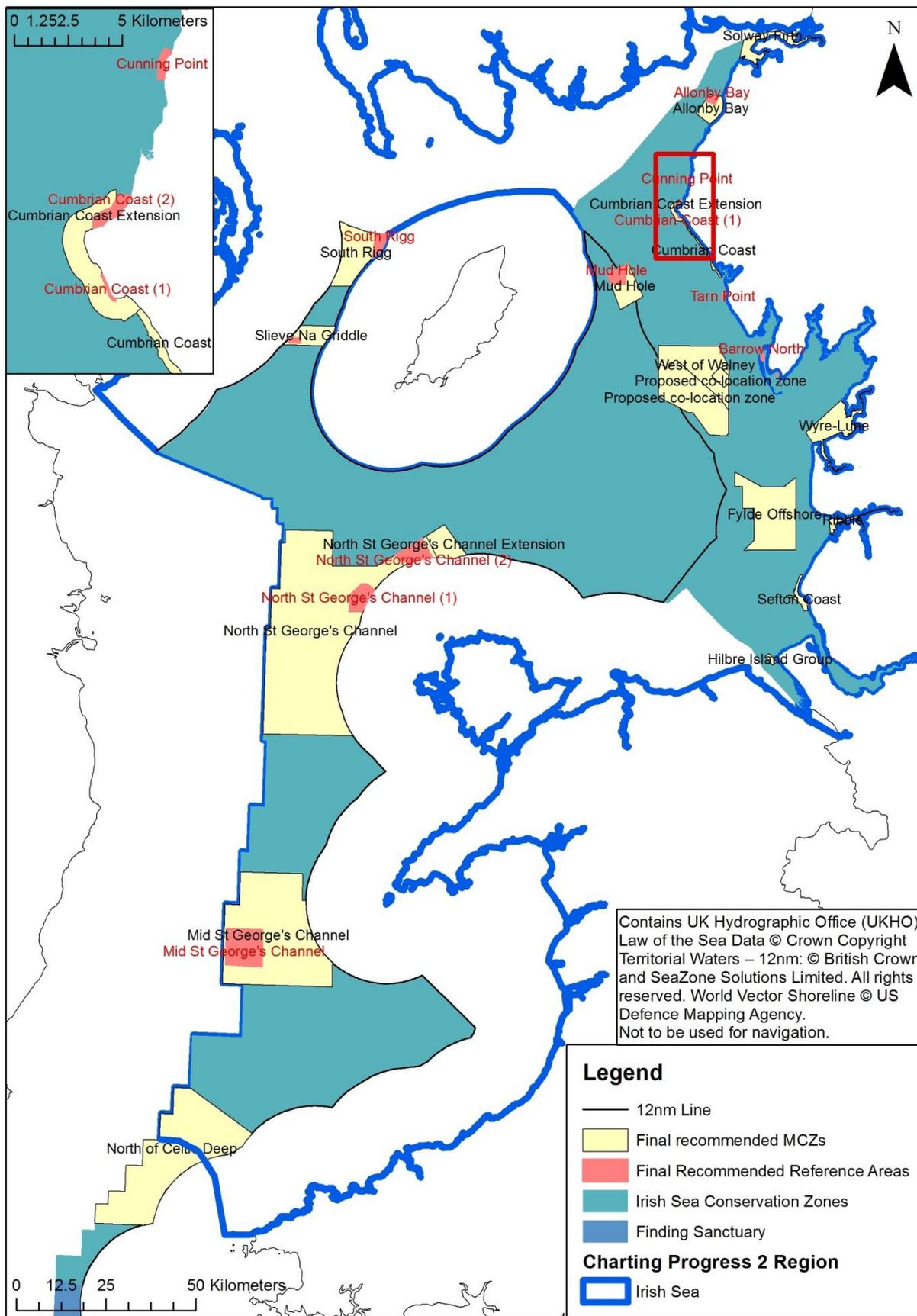


Figure 20 The Irish Sea regional sea

Site name: ISCZ 04 Mid St George’s Channel rMCZ 4 and ISCZ RA C Mid St George’s Channel recommended reference area (ISCZ) (JNCC)

Table 183 An overview of features proposed for designation within the Mid St Georges Channel rMCZ and rRA C and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Recover			BAP habitat
A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Maintain		Only a small proportion of this feature is protected within existing MPAs	
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Recover		Only a very small proportion of this feature is protected within existing MPAs	Only a very small proportion of this feature is protected in MPAs (4km) within the Irish Sea Regional Sea
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			

<p>A5.4 Subtidal mixed sediments</p>	<p>BSH</p>	<p>✓ * 1</p>	<p>✓</p>	<p>✓</p>	<p>None</p>	<p>Recover</p>	<p>Out of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal mixed sediment. This site makes a significant contribution towards achieving the adequacy target for this BSH. This feature only has the minimum amount of replicates.</p>	<p>This feature is not protected within existing MPAs</p>	<p>Out of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal mixed sediment. This feature is not protected in existing MPAs within the Irish Sea Regional Sea</p>
<p>Site considerations</p>									
<p>Connectivity</p>				<p>✓ * 2</p>					
<p>Geological/Geomorphological features of interest</p>				<p>✓ * 3</p>					
<p>Appropriate boundary</p>				<p>✓</p>					
<p>Areas of Additional Ecological Importance</p>				<p>✓ * 4</p>					
<p>Overlaps with existing MPAs</p>				<p>None</p>					

Table 184 An overview of features within Mid St George’s Channel recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Subtidal sands and gravels	FOCI	✓	Recover to reference condition
A4.2 Moderate energy circalittoral rock	BSH	✓	Recover to reference condition
A5.1 Subtidal coarse sediment	BSH	✓	Recover to reference condition
A5.2 Subtidal sand	BSH	✓ * 5	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary		✓	

Additional comments:

- ¹ The minimum replication target for subtidal mixed sediments has only just been achieved.
- ² The site is critical for the connectivity of circalittoral rock due to the limited distribution of this type of habitat throughout the area.
- ⁵ Only a small patch of sand is present within the recommended reference area.

Suggested amendments:

- None

Summary of site benefits:

- This site contributes to the representation, replication and adequacy guidelines for four broad-scale habitats, two of which are only protected in small amounts within existing MPAs and one habitat FOCI, in particular it has the largest contribution for subtidal mixed sediment. This habitat is not protected within existing MPAS in the regional MCZ project area or in the Irish Sea regional sea. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats and complies with the viability guidelines.
- ³ This site contains some periglacial geological features (glacial landforms formed adjacent to, but were never covered by, ice cover). Just outside of the boundary lie bathymetric deeps from glacial erosion (troughs or channels). These geological features add to the interest in the surrounding area but are not directly proposed for designation in the rMCZ.
- ⁴ Information on Areas of Additional Ecological Importance was used to draw the final boundary for the recommended MCZ:
 - The rMCZ and recommended reference area overlap with an area of medium benthic biotope biodiversity (Langmead, et al. 2010).

- Recent JNCC surveys on the North part of the site indicates a wide variety of biotope and species in the site, with areas comprised by a mixture of consolidated pebbles, gravel and cobbles supporting a more diverse fauna of hydroids and bryozoans. The site also includes records of crustaceans species, in particular pink shrimps and the edible crab (Dalkin 2008). There are some inferred evidence indicating that the protection of the integrity and ecology of subtidal mixed sediments will have a beneficial effect on related ecosystem processes in particular of larval/gamete supply, food web dynamics, species diversification, and some ecosystem services could benefit such as fisheries, environmental resilience and research and education add reference).
- The site intersects with a thermal front creating area of high productivity during the summer months. Information provided to the project indicates the presence of migrating cetaceans in particular basking sharks (Stephan, Gadenne and Jung 2011) and it provides foraging grounds to a wide range of species of seabirds species (Irish Sea Conservation Zones 2011). An analysis of the numbers and distribution of seabirds found that this area lies to the east of a high density area of Manx shearwaters during breeding and to the south of a high density area of Arctic terns during breeding. There are records for low to medium elevated densities of razorbills during moult; medium elevated densities in general for seabird during the summer months; and medium to high elevated densities of razorbills during winter in the north-west of the area (Kober, et al. 2010).
- There are some inferred evidence that the protection of the integrity and ecology of subtidal mixed sediments will have a beneficial effect on related ecosystem processes in particular of larval/gamete supply, food web dynamics, species diversification, and some ecosystem services could benefit such as fisheries, environmental resilience and research and education (Fletcher, et al. 2012).
- The SAP highlighted the recommended reference area as a good example of a reference area, potentially providing considerable protection for 103km² of subtidal sediments and moderate energy circalittoral rock and associated habitat FOCI.

Implications of the site not being designated:

- The Mid St Georges Channel rMCZ makes a significant contribution towards achieving the adequacy guidelines for subtidal mixed sediment within the regional MCZ project area because it contributes almost 90% of this broad-scale habitat. It also makes a significant contribution towards achieving the replication guidelines for subtidal mixed sediment within the regional MCZ project area because the guideline has only just been achieved. Therefore, if this site is not designated, nor another equivalent area put forward the implication is failure to achieve these guidelines.
- The site also contains the only example of a viable reference area for subtidal mixed sediments and so if this site was not taken forward to designation this feature would not be represented in the recommended reference areas.

Site name: ISCZ 01 Mud Hole rMCZ and ISCZ RA A Mud Hole recommended reference area (ISCZ) (JNCC)

Table 185 An overview of features proposed for designation within the Mud Hole rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Mud habitats in deep water	FOCI	✓	✓	✓	None	Recover		This feature is not protected within existing MPAs	BAP habitat. This feature is not protected in existing MPAs within the Irish Sea Region and North Channel (Irish Sea)- Region 5
Sea-pen and burrowing megafauna communities	FOCI	✓	✓	✓	None	Recover	This feature only has the minimum number of replicates	This feature is not protected within existing MPAs	OSPAR habitat. This feature is not protected in existing MPAs within the Irish Sea Regional Sea

A5.3 Subtidal mud	BSH	✓	✓	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target. This site makes a significant contribution to achieving the adequacy target for this feature.	This feature is not protected within existing MPAs.	This feature is not protected in existing MPAs within the Irish Sea Regional Sea
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 1					
Appropriate boundary				✓ * 2					
Areas of additional ecological importance				✓ * 3					
Overlaps with existing MPAs				None					

Table 186 An overview of features proposed for designation within Mud Hole recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Mud habitats in deep water	FOCI	✓	Recover to reference condition
Sea-pen and burrowing megafauna communities	BSH	✓	Recover to reference condition
A5.3 Subtidal mud	BSH	X * 4	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * 5		

Additional comments:

- ² The boundary for the rMCZ is in line with ENG guidelines in that it is as simple as possible and uses a minimum number of straight lines. As the habitat FOCI is not in a discrete patch, it is not possible to capture all of the FOCI and provide a margin for protection.
- ⁴ Currently the recommended reference area has a minimum diameter lower than that recommended in the ENG for broad-scale habitats, mainly due to the shape of the recommended reference area.
- ⁵ The boundary of the recommended reference area does not have straight lines because DECCA lines were used to delineate this boundary.

Suggested amendments:

- The size and shape of the recommended reference area could be slightly amended to comply with the viability and boundary guidelines.

Summary of site benefits:

- The site contributes towards the achievement of representation, replication and adequacy guidelines for subtidal mud and two habitat FOCI. It also contributes to the connectivity guidelines and complies with the viability guidelines with the exception of the minimum diameter for the reference area. All features known to be present at the site were put forward for recommendation. The mud habitats in this area are of high commercial interest, as it is the habitat of the Norway lobster, *Nephrops norvegicus*. There are a number of other species which inhabit this area, including the brittlestar, the burrowing sea urchin *Brissopsis lyrifera* and several species of bivalves (Hinz, Prieto and Kaiser 2009).
- The site is critical for the achievements of replication guidelines for 'sea-pens and burrowing megafauna' and, the contribution towards the minimum requirements for adequacy guidelines of 'subtidal mud'. Please note that if the current proposals for co-location within rMCZ3 do not go ahead the guidelines for 'subtidal mud' will drop below the minimum guidelines. Issues around the shortfalls on mud were also highlighted in the SAP report as a concern for the achievement of the ENG guidelines; Sea-pens and burrowing megafauna have become rare in this area of the Irish Sea and so if designated this rMCZ could allow for recovery (Irish Sea Conservation Zones 2011). It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines.
- ¹ The rMCZ is located within the area of the maximum lateral extent of the ice during the last glacial period. It also contains Glacial Process features developed by fluvio-glacial (water-ice) erosional processes. However the site is not directly proposed for these features.
- ³ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ is located within an area of additional ecological importance in particular for benthic biotope and species richness. There are records for sightings of basking sharks in the south of the rMCZ (Marine Conservation Society and the Shark Trust data) and the rMCZ falls within the foraging radii for seabird species (RSPB data). There are important nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012).

- Current information indicates the management of fisheries within mud habitats will result in a positive effect to its ecological integrity and could benefit associated ecosystem processes of primary and secondary production, larval/gamete supply, food web dynamics, formation of species habitat, species diversification, erosion control and biogeochemical cycling to varying degrees, and therefore contributing to the production of ecosystems services. However, benefits to commercial fisheries may only be realised if fish are extracted through less destructive means or if recovery of the habitat results in increased fish production (Fletcher, et al. 2012).
- The SAP (SAP final response to ISCZ 2nd iteration) identified that the provision of a pMCZ in the mud areas (pMCZ2 and 6 currently), while potentially removing ground from access to the fishing industry, will yield long-term benefits. In both areas, the occurrence of gyres in the summer months entrains the larvae of *Nephrops* such that they recruit back onto the same fishing ground. Protection of an element of the mud patches in both areas should increase the reproductive output and recruitment into the remaining fishing grounds. Such protection would also guard against sex biased mortality, which can occur at present.

Implications of the site not being designated:

- The Mud Hole rMCZ makes a significant contribution towards achieving the adequacy guidelines for subtidal mud and the replication guideline for the FOCI sea-pen and burrowing megafauna within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve these guidelines.

Site name: ISCZ 03 North St George’s Channel rMCZ, ISCZ 03a North St George’s Channel extension, ISCZ RA B North St George’s Channel (1) recommended reference area and ISCZ RA S North St George’s Channel (2) recommended reference area (ISCZ) (JNCC)

Table 187 An overview of features proposed for designation within the North St Georges Channel rMCZ and extension and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
<i>Modiolus modiolus</i> beds * 1	FOCI								
Subtidal sands and gravels	FOCI	✓	✓	✓	None	Recover			BAP habitat
A4.1 High energy circalittoral rock	BSH	✓	✓	✓ * 2	None	Maintain	This feature only has the minimum amount of replicates	Only site proposed for this feature within the ISCZ. This feature has limited distribution within the regional project area. This feature is not protected within existing MPAs	This feature is not protected in existing MPAs within the Irish Sea Regional Sea. (Data from Welsh MPAs needs to be assessed)

A4.2 Moderate energy circalittoral rock	BSH	✓	✓	✓	None	Maintain		Only a small proportion of this feature is protected within existing MPA.	
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain	Out of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal coarse sediment. This site makes a significant contribution towards the lower level target for this feature within the regional MCZ project area	Only a very small proportion of this feature is protected within existing MPAs	Only a very small proportion of this feature is protected in MPA within the Irish Sea Regional Sea. Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of subtidal coarse in the whole MCZ project area
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			
A5.4 Subtidal mixed sediments	BSH	✓	✓	✓	None	Maintain	This feature only has the minimum amount of replicates	This feature is not protected within existing MPA	This feature is not protected in existing MPA within the Irish Sea Regional Sea

A5.6 Subtidal biogenic reefs * 3	BSH								
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				Glacial process features – Irish Sea Drumlins * 4					
Appropriate boundary				✓					
Areas of additional ecological importance				✓ * 5					
Overlaps with existing MPAs				Crocker Carbonate Slabs pSAC					

Table 188 An overview of features proposed for designation within North St George’s Channel (1) recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Subtidal sands and gravels	FOCI	✓	Recover to reference condition
A4.1 High energy circalittoral rock	BSH	✓	Recover to reference condition
A4.2 Moderate energy circalittoral rock	BSH	✓	Recover to reference condition
A5.1 Subtidal coarse sediment	BSH	✓ * 6	Recover to reference condition
Site considerations			
Appropriate boundary		✓ * 7	

Table 189 An overview of features proposed for designation within North St George’s Channel (2) recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
<i>Modiolus modiolus</i> beds * ⁸			
A4.2 Moderate energy circalittoral rock	BSH	✓	Recover to reference condition
A5.4 Subtidal mixed sediments	BSH	✓	Recover to reference condition
A5.1 Subtidal coarse sediment	BSH	✓	Recover to reference condition
A5.2 Subtidal sand	BSH	✓ * ⁹	Recover to reference condition
A5.6 Subtidal biogenic reefs * ¹⁰			
Site considerations			
Appropriate boundary		✓ * ¹¹	

Additional comments:

- ^{1,3} The Irish Seas Conservation Zone has recommended recover objectives for both *Modiolus modiolus* beds and subtidal biogenic reefs in North St. George’s Channel. Both features satisfy the Annex 1 definition of biogenic reef and so, should information become available which confirms their presence, we might need to consider progressing this feature under the Natura process.
- ² The site is viable but high energy circalittoral rock only has a small patch size due to the feature having limited distribution.
- ^{3, 8,10} The current evidence available does not support the presence of *Modiolus modiolus* beds and subtidal biogenic reefs in the rMCZ or the recommended reference area rRA S (see [Section 5.1](#)).
The broad-scale habitat in the extension is not a feature recommended for designation.
- ⁶ The recommended reference area rRA B only contains a small patch of subtidal coarse sediment.
- ⁷ The recommended reference area rRA B boundary follows ENG guidelines, although if new evidence confirms the extent of the rock habitat the boundary could be slightly refined to capture the southern portion of the rock feature.
- ⁹ The recommended reference area rRA S only contains a small patch of subtidal sand.
- ¹¹ The boundary of recommended reference area rRA S follows ENG guidelines, although if new evidence confirms the extent of the rock habitat the boundary could be slightly refined to capture some patches of moderate energy circalittoral rock.

Suggested amendments:

- We advise that if *Modiolus modiolus* beds and subtidal biogenic reef are confirmed to be present within the area, that they should be progressed through the Natura process and not listed as features for designation within the MCZ.

Summary of site benefits:

- The site contributes towards the achievement of ENG guidelines on representation, replication and adequacy for five broad-scale habitats and one habitat FOCI (current evidence indicates that the broad-scale habitat subtidal biogenic reefs and *Modiolus* beds are not present within the site). Two of the broad-scale habitats are not protected in existing MPAs whilst another two are only protected in small amounts in existing MPAs. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats and complies with the viability guidelines. The boundary seems to follow the ENG guidelines and Areas of Additional Ecological Importance have been actively used to set up the boundaries around the northern part of the site.
- The site makes a very significant contribution towards achieving the lower adequacy guidelines of the broad-scale habitat subtidal coarse sediments, and only a small proportion is protected within existing MPAs. Out of all of the rMCZs and existing MPAs, this site contributes the largest area of subtidal coarse sediment in the ISCZ and it is the second largest area for the whole MCZ project area.
- The site is critical for the achievement of the minimum number of replicates for the broad-scale habitat subtidal mixed sediments which are currently not protected in exiting MPAs within the regional MCZ project area and within the Irish Sea regional sea.
- The site contains one of the two replicates of high energy circalittoral rock which has limited distribution within the regional project area, and whole MCZ project area. This habitat is more widely available within Welsh waters.
- The recommended reference areas are both viable for all features within these sites.
- ⁴ The site has been proposed for its extensive drumlin field, and these features provide critical evidence for the contemporary glacial deposition processes and trends in the Irish Sea. A large dataset has been built up about the features. The site includes a sand wave field and the periglacial features create a patterned ground. The ENG geological features 'esker field and glacial flute field' are located outside and adjacent to the extension boundary. The site overlaps with the Crocker Carbonate Slabs pSAC which is designated for carbonate mounds formed by seeping gas. The site has been subject to several surveys and assessments.
- ⁵ The northern portion of the boundary was drawn to capture areas of high Areas of Additional Ecological Importance, mainly due to the presence of information on species richness.
 - The presence of the pelagic front, increases the pelagic productivity of the areas and it provides foraging grounds for several seabird species. Information provided to the project indicates the presence of migrating cetaceans and in particular basking sharks at particular times of the year (Stephan, Gadenne and Jung 2011). There are some inferred evidence indicating that the protection of the integrity and ecology of subtidal mixed sediments will have a beneficial effect on related ecosystem processes in particular of larval/gamete supply, food web dynamics, species diversification, and some ecosystem services could benefit such as fisheries, environmental resilience and research and education (Fletcher, et al. 2012). This site overlaps with areas of high and medium benthic species biodiversity and high and medium benthic biotope biodiversity (Langmead, et al. 2010).

- An analysis of the numbers and distribution of seabirds found that the area lies to the south of a high density area of Arctic skua in autumn and of great skua during breeding. It also lies to the north-west of a high density area of Sandwich terns during breeding. It is an area of low to medium elevated densities for northern fulmar during winter and for common guillemot during winter; medium elevated densities for Arctic skua during breeding in the east of the area, and of black-legged kittiwakes during breeding; and medium to high elevated densities of Manx shearwaters during breeding in western parts of the area, of Arctic terns during breeding in the north of the area, of common guillemots during moult, of razorbill around the year (but during winter mostly restricted to the south-west and the north-east of the area), and in general for seabirds during the summer. This is in particular a high density area of puffins during winter (Kober, et al. 2010).

Implications of the site not being designated:

- The North St Georges Channel rMCZ makes a significant contribution towards achieving the adequacy guidelines for high energy circalittoral rock and makes the largest contribution to subtidal coarse sediment within the regional MCZ project area. It also makes a significant contribution towards the replication target for subtidal mixed sediments. It is for these reasons that if this site is not designated, nor another equivalent area put forward the implication is failure to achieve these three guidelines. It will be difficult to find an alternative example of high energy circalittoral rock within the regional MCZ project area due to its limited distribution.
- As this rMCZ has the geological feature known as the Irish Sea Drumlins as a feature for designation, if this rMCZ was not progressed through to designation the opportunity would be missed to protect a site which is of key scientific importance for its drumlin features which are not represented elsewhere in the rMCZ suite.
- This site also contains the only two recommended reference areas which are viable for their features within the regional MCZ project offshore waters.

Site name: ISCZ 07 Slieve Na Griddle rMCZ and ISCZ RA G Slieve Na Griddle recommended reference area (ISCZ) (JNCC)

Table 190 An overview of features proposed for designation within Slieve Na Griddle rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Mud habitats in deep water	FOCI	✓	✓	✓	None	Recover		This feature is not protected within existing MPAs	BAP habitat. This feature is not protected in existing MPAs within the Irish Sea Regional Sea
A4.3 Low energy circalittoral rock * 1	BSH								
A5.3 Subtidal mud	BSH	✓	✓ * 2	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target	This feature is not protected within existing MPAs	

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	✓ * 3
Appropriate boundary	✓
Areas of additional ecological importance	✓ * 4
Overlaps with existing MPAs	Pisces Reef Complex PSac * 5

Table 191 An overview of features within Slieve Na Griddle recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Mud habitats in deep water	FOCI	X * 6	Recover to reference condition
A4.3 Low energy circalittoral rock	BSH	X * 7	Recover to reference condition
A5.3 Subtidal mud	BSH	X * 8	Recover to reference condition
Site considerations			
Appropriate boundary		✓ * 9	

Additional comments:

- ^{1,5} The Irish Seas Conservation Zone has put forward low energy circalittoral rock with a recover objective in their final recommendation for Slieve na Griddle. We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Pisces Reef. Part of the data acquisition for the MCZ process has identified areas outside of the current pSAC boundary that may be Annex 1 reef; these areas are being investigated and will be considered for inclusion within the Pisces reef complex. We therefore advise this feature is not listed for designation within Slieve na Griddle. This will also mean that the importance of South Rigg rMCZ will increase as the only recommendation left containing this feature. Should information become available which confirms the presence of this feature we would consider progressing this feature under the Natura process (see [Sections 5.1](#) and [5.2](#)).
- ² The broad-scale habitat subtidal mud is just achieving the minimum adequacy guidelines.
- ^{6,7,8} The recommended reference area has a minimum diameter of less than 1km and the total area is less than 5km², therefore it is not viable for the broad-scale habitat or habitat FOCI.
- ⁹ The boundary of the recommended reference area has encapsulated part of the Pisces Reef Complex SAC.

Suggested amendments:

- We advise that low energy circalittoral rock is not listed as a feature for designation within this rMCZ. However, we agree with the proposal of low energy circalittoral rock as a feature for designation within the recommended reference area.

Summary of site benefits:

- The site contributes towards the achievement of ENG guidelines on representation, replication and adequacy for one broad-scale habitat and one habitat FOCI. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment habitats and complies with the viability guidelines with the exception of the recommended reference area.
- The site is critical for the achievement of the minimum requirements for adequacy guidelines of subtidal mud. Please note that if the current proposals for co-location within rMCZ3 do not go ahead the guidelines for subtidal mud will drop below the minimum guidelines. Issues around the shortfalls on mud were also highlighted in the SAP report as a concern for the achievement of the ENG guidelines.
- ³ Although this site has no geological or geomorphological features proposed for designation, there are a number of topographic features such as the Pisces Reef Complex and erosional glacial features.
- ⁴ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - This rMCZ overlaps with an area of high benthic biotope richness in the eastern extent. It also includes foraging grounds for some seabird species, and there are nursery and spawning grounds for a number of fish species within the local area (Ellis, et al. 2012). Information provided to the regional MCZ project indicates the presence of migrating cetaceans in particular basking sharks in particular during the months of July to September utilising the nutrient rich stratified waters between the Isle of Man and Northern Ireland (Stephan, Gadenne and Jung 2011).
 - An analysis of the numbers and distribution of seabirds found that it is a low to medium density area of kittiwake during breeding, and common guillemot all year around; a medium density area of northern gannet all year around and in general for seabirds during summer; and a high density area of herring gull during breeding and winter, and of greater black-backed gull during breeding. The site is close to high density area of Manx shearwater during breeding and autumn (Kober, et al. 2010).
 - The mud habitat in this region supports a thriving and commercially important of the Norway lobster, *Nephrops norvegicus*, it also contains other commercially important species, such as the *Cancer pagurus* (edible crab). The mud surrounding the Pisces reefs provides a natural refuge for this species. Current information indicates the management of fisheries within mud habitats will result in a positive effect to its ecological integrity and could benefit associated ecosystem processes of primary and secondary production, larval/gamete supply, food web dynamics, formation of species habitat, species diversification, erosion control and biogeochemical cycling to varying degrees, and potentially contributing towards ecosystems services, in particular those associated with fisheries. However, benefits to commercial fisheries may only be realised if fish are extracted through less destructive means or if recovery of the habitat results in increased fish production (Fletcher, et al. 2012).

Implications of the site not being designated:

- As subtidal mud is only just achieving its adequacy guideline, Slieve Na Griddle rMCZ makes a significant contribution towards achieving the adequacy guidelines for this broad-scale habitat within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.

Site name: IS CZ 06 South Rigg rMCZ and IS CZ RA F South Rigg recommended reference area (IS CZ) (JNCC)

Table 192 An overview of features proposed for designation within South Rigg rMCZ and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
<i>Arctica islandica</i>	FOCI	X * 1	X * 2	✓	Minimum replication target not met	Recover	This feature has not met the minimum amount of replicates.	This feature is not protected within existing MPAs. Records of live juveniles and is the only known area of breeding <i>Arctica islandica</i> in the IS CZ region	OSPAR T and D species. This feature is not protected in existing MPAs within the Irish Sea Regional Sea
Mud habitats in deep water	FOCI	✓	✓	✓	None	Recover		This feature is not protected within existing MPAs	BAP habitat. This feature is not protected in existing MPAs within the Irish Sea Regional Sea
Sea-pens and burrowing megafauna	FOCI	✓	✓	✓	None	Recover	This feature only has the minimum amount of replicates	This feature is not protected within existing MPAs	OSPAR habitat. This feature is not protected in existing MPAs within the Irish Sea Regional Sea

A4.3 Low energy circalittoral rock	BSH	✓	✓ * 3	✓	None	Recover	Out of all of the rMCZs and existing MPAs, this site contributes the largest area of low energy circalittoral rock	This feature has limited distribution within the regional project area	This feature has limited distribution within the whole MCZ project area and within the Irish Sea Regional Sea
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Recover			
A5.3 Subtidal mud	BSH	✓	✓ * 4	✓	None	Recover	This BSH is currently only reaching the minimum adequacy target	This feature is not protected within existing MPAs	
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 5					
Appropriate boundary				✓					
Areas of additional ecological importance				✓ * 6					
Overlaps with existing MPAs				None					

Table 193 An overview of features within South Rigg recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
<i>Arctica islandica</i>	FOCI	✓	Recover to reference condition
A5.3 Subtidal mud	BSH	X * ⁷	Recover to reference condition
A5.2 Subtidal sand	BSH	✓	Recover to reference condition
Site considerations			
Appropriate boundary		✓ * ⁸	

Additional comments:

- ^{1,2} This rMCZ has the only example of *Arctica islandica* recommended for designation within the project area and so the replication target for this FOCI is not being met. Due to the lack of replicates this also means that adequacy has not been achieved for this FOCI. The regional MCZ project recommendations state that this was due to stakeholders having low confidence in *Arctica islandica* records elsewhere in the regional MCZ project area.
- ⁴ The broad-scale habitat subtidal mud is just reaching the adequacy guidelines. Out of all of the rMCZs and existing MPAs, this site contributes the second largest area of subtidal mud if the proposed co-location at the West of Walney site does not go forward.
- ^{7,8} The reference area is slightly below the recommended minimum diameter however, the size is constrained by the location of administrative boundaries. It only contains a small patch of subtidal mud.

Suggested amendments:

- None.

Summary of site benefits:

- This site contributes around 65% towards adequacy guidelines for low energy circalittoral rock.
- The site contributes towards the achievement of ENG principles of representation, replication and adequacy for three broad-scale habitats and three habitat and species FOCI, one of which is a BAP habitat, two of which are on the OSPAR list of threatened and/or declining species and habitats. It also contributes to achieving connectivity for the EUNIS Level 2 sublittoral sediment and circalittoral rock habitats and complies with the viability guidelines.

- The site is critical for the achievements of replication guidelines for sea-pens and burrowing megafauna and *Arctica islandica* (which the replication target has not been achieved), and the contribution towards the minimum requirements for adequacy guidelines of subtidal mud. Please note that if the current proposals for co-location within rMCZ3 do not go ahead the guidelines for subtidal mud will drop below the minimum guidelines. Issues around the shortfalls on mud were also highlighted in the SAP report as a concern for the achievement of the ENG guidelines;
- ³ The site contains one of the two replicates of low energy circalittoral rock which has limited distribution within the regional project area, whole MCZ project area and bio-geographical region. We have also advised against the recommendation of this feature in Slieve Na Griddle rMCZ as a feature for designation and so if our advice was followed, this would make this rMCZ the only replicate for this feature and the largest contributor. The site is also critical for the connectivity target of EUNIS Level 2 circalittoral rock due to the limited distribution of this type of habitat throughout the area.
- Not all features known to be present at the site were put forward for recommendation. The original classification of the sites includes small patches of subtidal coarse sediment which was reclassified as subtidal mud by the project team (see [Section 5.1](#)).
- The sites include two broad-scale habitats and three FOCIs that are not protected within existing MPAs.
- The boundaries are set following the administrative boundaries adjacent to the site, but overall the site seems to comply with the recommendations of the ENG.
- ⁵ Although there are no listed geological or geomorphological features proposed for designation within this site, there are features such as the north-west Irish Sea mounds and erosional glacial features.
- ⁶ Although it is not clear whether this site was selected on the basis of it being an area of additional ecological importance there are a number of ecological benefits which could be considered important and add value to this recommendation:
 - The regional MCZ project recommendations state that this is an area of high pelagic diversity during the summer months linked with the western Irish Sea gyre and that live juveniles of *Arctica islandica* have been recorded at this location making it the only known breeding population in the regional MCZ project area (Irish Sea Conservation Zones 2011) .
 - This rMCZ overlaps with an area of high benthic biotope richness throughout the site (Langmead, et al. 2010). There are records for sightings of basking sharks in the rMCZ (Marine Conservation Society and the Shark Trust data) and the rMCZ falls within the foraging radii for seabird species (RSPB data). There are nursery and spawning grounds for a number of fish species and within the local area (Ellis, et al. 2012).
- Oceanographic conditions around the area and the presence of the western Irish Sea gyre indicates the site has potential scientific interest to better understand the implication of the prevailing oceanographic condition on the distribution of fisheries larvae around the area.
- Current information indicates the management of fisheries within mud habitats will result in a positive effect to its ecological integrity and could benefit associated ecosystem processes of primary and secondary production, larval/gamete supply, food web dynamics, formation of species habitat, species diversification, erosion control and biogeochemical cycling to varying degrees, and potentially contributing towards ecosystem services, in particular those associated with fisheries. However, benefits to commercial fisheries may only be realised if fish are extracted through less destructive means or if recovery of the habitat results in increased fish production (Fletcher, et al. 2012).

- Please note that the Isle of Man is investigating the possibility of extending the designation of the ISCZ reference area into Manx waters to protect *Arctica islandica* populations. This would protect the entire feature, rather than imposing an artificial political boundary that fails to recognise the natural distribution of a species of conservation importance.

Implications of the site not being designated:

- As subtidal mud is only just achieving its adequacy guideline, South Rigg rMCZ makes a significant contribution towards achieving the adequacy guidelines for this broad-scale habitat within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.
- In addition, this site makes a significant contribution towards achieving the replication guidelines for the FOCI sea-pens and burrowing megafauna within the regional MCZ project area and therefore if this site is not designated, nor another equivalent area put forward the implication is failure to achieve this adequacy guideline.
- At present the site contains the only recommendation for *Arctica islandica* as a feature for designation within the regional MCZ project area and the only reference area for this species. Therefore, if this site is not designated, nor another equivalent area put forward the implication is failure to achieve the representativity, replication and adequacy guidelines for this feature within this regional MCZ project area.
- The broad-scale habitat low energy circalittoral rock has very limited distribution in the regional project area and it will be difficult to find an alternative example.

Site name: rMCZ ISCZ 2 West of Walney (including a proposed co-location zone that is not part of the rMCZ 2 site) (ISCZ) (Natural England lead).

Table 194 An overview of features proposed for designation within rMCZ2- West of Walney and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-activity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.3 Subtidal mud	BSH	✓	✓ * 1	✓ * 2	None	Recover	This BSH is currently only reaching the minimum adequacy target. With and without co-location, this site contributes the largest area of this BSH.	This feature has a limited distribution. This feature is not protected in existing MPAs within the Irish Sea Region and North Channel (Irish Sea) Region 5.	
A5.2 Subtidal sand * 3	BSH	✓	✓	✓	None	Recover			
Mud habitats in deep water	FOCI Habitat	✓	✓	✓	None	Recover	With and without co-location, this site contributes the largest area of this feature.	This feature is not protected in existing MPAs within the Irish Sea Region and North Channel (Irish Sea) Region 5.	

Sea-pens and burrowing megafauna * 4	FOCI Habitat	✓	✓	✓	None	Recover	With and without co-location, this site contributes the largest area of this feature.	This feature is not protected in existing MPAs within the Irish Sea Region and North Channel (Irish Sea) – Region 5.
Site considerations								
Connectivity				✓				
Geological/Geomorphological features of interest				None				
Appropriate boundary				✓ * 2				
Areas of additional ecological importance				None				
Overlaps with existing MPAs				None				

Additional comments:

- This rMCZ is presented as two options – including a proposed co-location zone option. The assessment of replication, adequacy and viability guidelines are based on the option with co-location.
- ¹ The minimum target of adequacy for the broad-scale habitat subtidal mud will only be met in the region if the adjacent proposed co-location zone is taken forward. Without this, there would be a 2% (59km²) shortfall which would need to be found elsewhere. The SAP assessment of Final Recommendations, (Science Advisory Panel 2011a) recognises the considerable ecological importance of the BSH subtidal mud, and the need to meet the minimum ENG requirement at least.
- ² The exclusion of the offshore windfarm site from the rMCZ has resulted in a boundary shape which is complex, and which may result in some parts of the rMCZ being less viable, and is not in line with the ENG guidelines. With co-location, the boundary would be in line with ENG guidelines.
- ³ Subtidal sand is a recommended BSH in the proposed co-location zone; additional evidence suggests that this habitat is also represented on the eastern side of rMCZ2 (Centre for Marine and Coastal Studies 2009).
- ⁴ This feature is rare in the region, and is therefore the only replicate.

Summary of site benefits:

- Subtidal muddy habitats are a characteristic and localised feature of the Irish Sea, forming a larger Western Irish Sea mud basin and a smaller, shallower, Eastern Irish Sea mud basin. These are not protected by any nature conservation designations.
- The site including the proposed co-location zone, includes transitions from subtidal mud with sea-pens and burrowing megafauna, through other deep water mud biotopes, to both inshore and offshore subtidal sand communities (Lumb 2011).

- If designated this site could allow for recovery of sea-pens and burrowing megafauna which have become rare in this part of the Irish Sea. The SAP (Science Advisory Panel 2011c) refer to published research (Hinz, Prieto and Kaiser 2009) which demonstrates the direct negative relationship between fishing and sea-pen abundance, and other key fauna in the mud system in the eastern Irish Sea (Irish Sea Conservation Zones 2011).
- The proposed co-location zone has strong stakeholder support from the Irish Sea *Nephrops* trawling sector. Although the zone supports *Nephrops*, the *Nephrops* trawling sector are or will be effectively excluded from the area, by offshore wind farm developments (Irish Sea Conservation Zones 2011).
- Designation of the proposed co-location zone would contribute to meeting the ENG guidelines for BSH subtidal mud and FOCI without adding to displacement pressures on the fishing industry (Irish Sea Conservation Zones 2011).
- The proposed co-location zone has been well studied by the offshore wind farm developers with developments in this zone. This gives a high level of confidence in the presence, composition and distribution of the BSH and FOCI habitats. If designated, this evidence base could be available to inform monitoring of the recovery of these habitats.
- The SNCBs (JNCC and NE) are working with the offshore windfarm developers, regulators and The Crown Estate to seek progress to a mutually acceptable co-location. The SNCBs are working with the industry to consider concerns raised by the SAP (para 6.2.3 (Science Advisory Panel 2011a)) that hydrodynamic changes caused by offshore windfarm structures may have wider impact upon habitats in the co-location zone. No evidence has been identified to date which supports this concern.
- The SAP discussed that identifying an additional MCZ in mud areas, whilst potentially removing grounds from access to the fishing industry, will yield long-term benefits to the industry in both Irish Sea mud areas. In both areas, the occurrence of gyres in the summer months entrains the larvae of *Nephrops* such that they recruit back onto the same fishing ground. Protection of part of the mud patches in both areas should increase the reproductive output and recruitment into the remaining fishing grounds. Such protection would also guard against sex biased mortality, which can occur at present (Science Advisory Panel 2011c).
- Subtidal sediments provide important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support seabirds such as puffin, razorbills and guillemots. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals. (Fletcher, et al. 2012)
- Offshore, sand and gravel habitats support internationally important fish and shellfish fisheries. This habitat is an important area for crab and echinoderms (for example, starfish and brittlestars). (Fletcher, et al. 2012)
- As well as playing an important role in biogeochemical recycling, Deep water mud habitats are particularly stable supporting unique sea-pen habitats, which support benthic invertebrates which are a major dietary component of commercially targeted fish and shellfish species (for example, amphipod, decapods, polychaetes and echinoderms dominate Atlantic cod diet). The activities of seapens and burrowing megafauna also play a role in providing habitat for smaller organisms. (Fletcher, et al. 2012)

Implications of the site not being designated:**Option 1: Implications of the whole site, including proposed location, not going forward**

- If the whole site is not designated, the amount of subtidal mud would not meet the lower target for adequacy, though replication would still be met. Issues around the shortfalls on mud were also highlighted by the SAP (Science Advisory Panel 2011a) as a concern for the achievement of adequacy guidelines for this BSH.
- If the whole site is not designated, it would be very difficult to find an alternative site to replace the subtidal mud features present within the site without considerable opposition from the fishing sector, as all areas of subtidal mud are currently under high levels of exploitation by the fisheries sector, especially for the capture of *Nephrops* (see RSG statement in (Irish Sea Conservation Zones 2011)).

Option 2: Implications of the site going forward without the co-location option

- The minimum target of adequacy for the broad-scale habitat subtidal mud will only be met in the region if the adjacent proposed co-location zone is taken forward. Without this, there would be a 2% (59km²) shortfall for subtidal mud - an important ecological feature.
- ⁴Without the proposed co-location option, there would only be the minimum of three replicates for FOCI habitat Sea-pens and burrowing megafauna, in the region. 1 other recommended reference area has the feature listed as well, but this overlaps with one of the MCZs where the feature is listed.

Site name: rMCZ ISCZ 8 Fylde Offshore (ISCZ) (Natural England lead)

Table 195 An overview of features proposed for designation within rMCZ8 Fylde Offshore and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A5.3 Subtidal sand	BSH	✓	✓	✓	None	Maintain	This site contributes the second largest area of subtidal sand to the region.		
Subtidal sands and gravels	FOCI Habitat	✓	✓	✓	None	Maintain			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * ¹					
Overlaps with existing MPAs				✓ * ²					

Additional comments:

- ¹ CEFAS sensitivity surveys have identified this area as being very important as nursery and spawning areas for several commercially important fish species (Ellis, et al. 2012).
- ² The site is within the northern part of Liverpool Bay SPA.

Summary of site benefits:

- The rMCZ has scientific value with research having been undertaken to assess the types, size and biomass of bivalves which are the key prey for common scoter, a key feature of Liverpool Bay SPA (Kaiser, et al. 2006).
- The site overlaps with Liverpool Bay SPA. The SPA provides protection to the overwintering red throated diver and common scoter interest features, together with their supporting habitats and prey species. The rMCZ will seek to protect other seabed species and habitats not protected by the SPA.
- The site contains important nursery and spawning grounds for several commercially important fish including sole, plaice, and whiting (Ellis, et al. 2012).
- The site currently has low levels of pressure from fishing activity (Vessel Monitoring System (VMS) and Fisherman data (Irish Sea Conservation Zones 2011)) and thus potentially has higher environmental quality than other areas.
- Subtidal sediment provides important nursery grounds for many ecologically and commercially important fish such as flatfish and seabass, and sand eel which support many seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).
- Offshore, sand and gravel habitats support internationally important fish and shellfish fisheries. This habitat is also an important area for crab and echinoderms (for example, starfish and brittle stars) as well as sand eel which support many seabird species (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated, the project will only just meet the minimum ENG target for adequacy for subtidal sand.

Site name: rMCZ ISCZ 10 Allonby Bay (with rRA H Allonby Bay) (ISCZ) (Natural England lead)

Table 196 An overview of features proposed for designation within rMCZ10, Allonby Bay, and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy Intertidal rock	BSH	✓ * 1	✓ * 2	✓ * 3	None	Maintain	There are only two replicates for high energy intertidal rock within the project area	This habitat is rare in this region	
A2.7 Intertidal biogenic reefs	BSH	✓	✓	✓ * 4	None	Maintain		The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK	The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK
A5.1 Subtidal coarse sediment	BSH	✓	✓	✓	None	Maintain			
A5.2 Subtidal sand	BSH	✓	✓	✓	None	Maintain			

Blue mussel beds <i>Mytilus edulis</i>	FOCI Habitat	✓	✓	✓ * 5, 7	None	Maintain			
Peat and clay exposures	FOCI Habitat	✓	✓ * 6	✓ * 5, 8	None	Maintain			
Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	✓	✓	✓	None	Maintain		The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK	The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK
Subtidal sands and gravels	FOCI Habitat	✓	✓	✓	None	Maintain			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				NA					
Overlaps with existing MPAs				NA					

Table 197 rRA H Allonby Bay. An overview of features proposed for designation within Allonby Bay reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
A3.2 Moderate energy infralittoral rock	BSH	✓ * ⁹	Recover to reference condition
A5.1 Subtidal coarse sediment	BSH	✓	Recover to reference condition
A5.2 Subtidal sand	BSH	✓	Recover to reference condition
Subtidal sands and gravels	FOCI Habitat	✓	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ¹⁰		

Additional comments:

- ¹ There are only two replicates for high energy intertidal rock within the regional project area, so replication it at its minimum.
- ² In the Irish Seas region there is a particularly small amount of the BSH High energy intertidal rock. When carrying out our analysis it became apparent that there is a slight variation of 0.3km² in area between the data provided in the SNCB gap analysis and the regional MCZ project information (explained in [Section 4.1](#)), likely to be the result of difficulties of mapping this small scale habitat. Regional advisers used their expert judgement and local knowledge to ascertain that most of this feature is in fact included in the recommended sites and therefore the adequacy target is met.
- ³ Viability for the BSH High energy intertidal rock requires a minimum criteria (5km²) which is met at this site. However, the BSH is represented in this site by boulder and cobble communities. These are likely to provide the supporting habitat for much of the intertidal biogenic reef habitat, and the extent of this feature may have been under-represented. The feature has a restricted distribution within the project area and the site contains a good example.
- ⁴ Due to the linear nature of the intertidal, this rMCZ meets the minimum viable size for BSH intertidal biogenic reef, through its maximum diameter only.
- ⁵ The site contains the FOCI habitats hmussel beds and peat and clay exposure. The extent and distribution of these FOCI is likely to vary naturally within the site and has not been mapped and presented within the Sites Assessment Document.
- ⁶ The adequacy target for peat and clay exposures is met within the regional MPA network with the inclusion of the intertidal underboulder clay communities sub-feature of Morecambe Bay SAC.
- ⁷ Viability for the FOCI habitat blue mussel *Mytilus edulis* beds is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is thought to be all so is considered viable. Though, as discussed in point 5, it should be noted that confidence in presence and extent is low for this site, but ongoing survey by the Environment Agency will provide future clarification.

- ⁸ Viability for the FOCI habitat Peat and clay exposures relies on a minimum patch diameter (0.5km) which is met at this site.
- ⁹ Natural England advises that the BSH Moderate energy infralittoral rock should be considered for inclusion as a feature within this rMCZ (10), as well as the overlapping recommended reference area H. There is evidence of presence of this feature, from fisheries stakeholders and from Maritime and Coastguard Agency MCA multibeam survey data, which Natural England has been able to groundtruth using drop down video methods, as part of the English Nature-commissioned Solway Firth Sublittoral Scar Ground Survey (IECS 2005).
- There is evidence that the feature has a particularly high biodiversity value in this area (E. Perkins 1973, E. Perkins 1988, Irish Sea Conservation Zones 2011) and a low level of disturbance from bottom-towed fishing gear (D. Dobson, North West Inshore Fisheries and Conservation Authority pers comm) leading to possible higher environmental quality than other locations of these features.
- ¹⁰ The boundary of rRA H could be extended to include more of this moderate energy infralittoral BSH which would improve viability. The SAP suggested that the boundary of rRA H should be extended to include areas of intertidal biogenic reef.

Suggested amendments:

- ⁹ **Natural England advises that the BSH Moderate energy infralittoral rock should be considered for inclusion as a feature within this rMCZ (10), as well as the overlapping recommended reference area H.** There is evidence of presence of this feature, from fisheries stakeholders and from Maritime and Coastguard Agency MCA multibeam survey data, which Natural England has been able to groundtruth using drop down video methods, as part of the English Nature-commissioned Solway Firth Sublittoral Scar Ground Survey (IECS 2005).

Summary of site benefits:

- This site makes a significant and ecologically important contribution to meeting the ENG target for high energy intertidal rock BSH in the project area.
- The region of the Cumbrian coast is known to have some of the most extensive and best represented examples of honeycomb worm reefs in the UK and this site has large solid structures (J. Lancaster pers comm, as cited in (Irish Sea Conservation Zones 2011); (D. Mills 1998, English Nature 1997).
- The honeycomb worm reefs at Dubmill Scar have had a long history of protection from mussel fisheries by the former Cumbria Sea Fisheries Committee, on account of their high ecological value. These have been surveyed annually by the Cumbrian Sea Fisheries Committee for many years and the site therefore has high scientific value due to this long history of scientific observation.
- The site includes areas of subtidal coarse sediment and infralittoral rock, which have previously been identified as having a particularly high biodiversity value within the Solway and eastern Irish Sea (E. Perkins 1973, E. Perkins 1988, Irish Sea Conservation Zones 2011, IECS 2005).
- rRA H was identified by, and has the support of the local fishing industry experts and NWIFCA officers. The area contains infralittoral rock and subtidal coarse sediment features which were identified as being too rough to fish with bottom-towed gears, and are likely to have retained a high degree of naturalness.
- The BSH Moderate energy infralittoral rock has a restricted distribution within the project area and within this site.
- rMCZ10 includes almost the whole substantial area of the feature within its boundary.

- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK. This habitat provides is an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Biogenic reefs play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonization by other organisms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection (Fletcher, et al. 2012)
- Mussel reefs are also an important food source for birds and have a strong stabilising effect on the sediment, thereby countering erosive wave action (Fletcher, et al. 2012).
- *Sabellaria alveolata* reefs have been shown to have an important trophic role as a primary consumer of phytoplankton through filtering large volumes of water, contributing to improved water quality (Fletcher, et al. 2012).

Implications of the site not being designated:

- If the site is not designated the replication target for high energy intertidal rock will not be met.
- If the site is not designated the replication target for moderate energy infralittoral rock will not be met, and will further the existing shortfall for the adequacy target.
- If the site is not designated there will be no reference area for moderate energy infralittoral rock.

Site name: rMCZ ISCZ 11 Cumbria coast (rRA I, the Cumbrian Coast (1) and, with rRA J the Cumbrian Coast (2)). (ISCZ) (Natural England lead)

Table 198 An overview of features proposed for designation within rMCZ11 Cumbria Coast and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A1.1 High energy intertidal rock	BSH	✓ * 1	✓ * 2	✓ * 3	None	Maintain	There are only two replicates for high energy intertidal rock within the project area.	Not protected in existing MPAs	
A2.2 Intertidal sand and muddy sand	BSH	✓	✓	✓ * 3	None	Maintain			
A2.7 Intertidal biogenic reefs	BSH	✓	✓	✓ * 3	None	Recover		The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK	The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK
A3.1 High energy infralittoral rock	BSH	✓	X * 4	✓ * 3	None	Recover	Replication is at its minimum for this feature.		

Blue mussel beds (<i>Mytilus edulis</i>)	FOCI Habitat	✓	✓	✓ * 5	None	Maintain			
Peat and clay exposures	FOCI Habitat	✓	✓ * 6	✓	None	Maintain			
Intertidal underboulder communities	FOCI Habitat	✓	✓	✓ * 7	None	Maintain		This is one of the best examples of underboulder shores in this region	
Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	✓	✓	✓	None	Recover		The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK	The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK
Black guillemot <i>Cephus grylle</i>	Non-ENG	N/A	N/A	N/A	None	Maintain			Only area known for of breeding in England
Narrow-leafed eelgrass <i>Zostera angustifolia</i>	Non-ENG	N/A	N/A	N/A	None	N/A			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 8					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 9					
Overlaps with existing MPAs				✓ * 10					

Table 199 rRA I, the Cumbrian Coast (1). An overview of features proposed for designation within rRA I, the Cumbrian Coast (1) and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Intertidal underboulder communities	FOCI Habitat	✓	Recover to reference condition
High energy infralittoral rock	BSH	X * ¹¹	Recover to reference condition
Subtidal sand	BSH	X * ¹¹	Recover to reference condition
Subtidal mud	BSH	X * ¹¹	Recover to reference condition
Subtidal sands and gravels	FOCI Habitat	X * ¹¹	Recover to reference condition
Site considerations			
Appropriate boundary	X ¹²		

Table 200 rRA J, the Cumbrian Coast (2). An overview of features proposed for designation within rRA J, the Cumbrian Coast (2). and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Intertidal underboulder communities	FOCI Habitat	✓	Recover to reference condition
High energy intertidal rock	BSH	X * ¹⁴	Recover to reference condition
Intertidal mixed sediments	BSH	X * ¹⁴	Recover to reference condition
Subtidal sand	BSH	X * ¹⁴	Recover to reference condition
Subtidal sands and gravels	FOCI Habitat	X * ¹⁴	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * ¹³		

Additional comments:

- ¹ There are only two replicates for high energy intertidal rock within the project area.
- ² In the Irish Seas region there is a particularly small amount of the BSH High energy intertidal rock. When carrying out our analysis it became apparent that there is a slight variation of 0.3km² in area between the data provided in the SNCB gap analysis and the regional MCZ project information

(explained in [Section 4.1](#)), likely to be the result of difficulties of mapping this small scale habitat. Regional advisers used their expert judgement and local knowledge to ascertain that most of this feature is in fact included in the recommended sites and therefore the adequacy target is met.

- ³ The intertidal and infralittoral BSHs within this rMCZ do not reach the minimum viability criteria (5km), however due to the linear nature of the intertidal area and infralittoral zone, they are considered viable through their maximum diameter only.
- Due to the linear nature of the intertidal and infralittoral, this rMCZ meets the minimum viable size for BSHs high energy intertidal rock, intertidal sand and muddy sand, intertidal biogenic reefs, and high energy infralittoral rock, through their maximum diameters only.
- ⁴ The project area does not meet adequacy guidelines for high energy infralittoral rock, though it is recommended for inclusion to rRA H Allonby Bay..
- ⁵ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included so is considered viable.
- ⁶ The adequacy target for FOCI habitat peat and clay exposures is met within the regional MPA network with the inclusion of the intertidal underboulder clay communities sub-feature of Morecambe Bay SAC.
- ⁷ Viability for the FOCI habitat Intertidal underboulder communities is reliant upon a minimum viable patch diameter (0.5km) which can be met at this site.
- ⁸ This site overlaps with five Regionally Important Geological and Geomorphological Site (RIGGS) and overlaps with two geological SSSIs (Natural England 2012a).
- ⁹ This rMCZ supports nationally important seabird colonies on St. Bees Head SSSI which has over 10,000 pairs of breeding seabirds, mainly guillemots and kittiwakes and smaller numbers of razorbill, puffin and black guillemot. It represents the major seabird colony within the ISCZ project area. It is the only site in England to support breeding black guillemot (RSPB 2011).
- ¹⁰ Includes areas covered by Drigg Coast SAC/SSSI and St. Bees Head SSSI down to mean low water.
- **rRA I**: ¹¹ Reference area size is viable for the main feature proposed (FOCI habitat intertidal underboulder communities which are completely included in the rRA) and the recommended reference area also contains small areas of other features.
- **rRA I**: ¹² The northern boundary of rRA I could be extended further around the whole of St. Bees Head to include the full extent of high energy intertidal rock; however this may raise stakeholder concerns.
- **rRA J**: ¹³ The RSG recommended that the seaward boundary should be drawn as defined distance from the Mean High Water Mark. The resulting boundary does not meet the ENG guidance. To help with management of the site, the boundary could be re-drawn as a series of straight lines that encompass the intended area.
- **rRA J**: ¹⁴ Reference area size is viable for one of the main features proposed (intertidal underboulder communities FOCI which are completely included in the rRA) and the recommended reference area also contains small areas of other features, but is unviable for them.

Suggested amendments:

- **rRA J:**¹³ The RSG recommended that the seaward boundary should be drawn as defined distance from the Mean High Water Mark. The resulting boundary does not meet the ENG guidance. **To help with management of the site, the boundary could be re-drawn as a series of straight lines that encompass the intended area.**

Summary of site benefits:

- The site includes St Bees Head which is a Heritage Coast and RSPB bird reserve. Natural England, RSPB, National Trust, the local authority and other partners have a Coastal Access partnership. St Bees Head offers spectacular views over the Eastern Irish Sea and valuable interpretive opportunities for the MPA network.
- The rMCZ site supports nationally important examples of high energy intertidal rock, intertidal biogenic reefs/ honeycomb worm reef, and intertidal underboulder communities (D. Mills 1998, Irish Sea Conservation Zones 2011). The rocky shores and biogenic reefs within the rMCZ have a long history of ecological research/study (Irish Sea Conservation Zones 2011).
- Extension of the seawards boundary to 1km offshore around St Bees Head to protect black guillemot will also afford protection to the large number of other breeding seabirds that loaf in these waters.
- The rMCZ was extended to the south in order to encompass the full extent of Barn Scar and Kokoarrah Rocks which are particularly diverse in marine life (Irish Sea Conservation Zones 2011).
- The overall site will protect a very long section of contiguous intertidal habitats.
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon (Fletcher, et al. 2012).
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Biogenic reefs play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonisation by other organisms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection (Fletcher, et al. 2012).
- *Sabellaria alveolata* reefs have been shown to have an important trophic role as a primary consumer of phytoplankton through filtering large volumes of water, contributing to improved water quality (Fletcher, et al. 2012). Biogenic reefs play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonization by other organisms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection (Fletcher, et al. 2012)
- Mussel reefs are also an important food source for birds and have a strong stabilising effect on the sediment, thereby countering erosive wave action (Fletcher, et al. 2012).
- Underboulder communities are entirely different from those communities present on the tops and sides of boulders. The interstitial spaces form microhabitats greatly add to shoreline biodiversity providing opportunity for education and research. The shade, moisture and sheltered conditions

offer habitat to species which would otherwise not survive the harsh conditions. The habitat provides niches for a range of encrusting species, sponges, bryozoans (sea mats), and ascidians (sea squirts; refuge for young shellfish, and predator protection for fish species such as blennies (Fletcher, et al. 2012).

Implications of the site not being designated:

- If this site is not designated, the minimum target for replication for high energy intertidal rock will not be met.
- The project area does not meet adequacy guidelines for high energy infralittoral rock. Not designating this site would further this shortfall.
- Lack of protection for this flagship area of rocky shore at St. Bees Head, and the only such area in the Regional Project area, would further the shortfall against the ENG adequacy target for high energy intertidal rock.
- If the site is not designated, the number of sites with FOCI habitat peat and clay exposures assessed as viable by Natural England will not meet the ENG target

Site name: rMCZ ISCZ 13 Sefton Coast, (and rRA Z Sefton Coast) (ISCZ) (Natural England lead)

Table 201 An overview of features proposed for designation within Sefton Coast rMCZ13 and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Peat and clay exposures	FOCI Habitat	✓	✓ * 1	✓ * 2	None	Recover	This site contributes the largest total area of peat and clay features in the project area.		
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 3					
Areas of Additional Ecological Importance				✓ * 4					
Overlaps with existing MPAs				✓ * 5					

Table 202 rRA Z Sefton Coast. An overview of features proposed for designation within the Sefton Coast recommended reference area and how these contribute to the ENG guidelines at the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Viability	Recommended conservation objective
Peat and clay exposures	FOCI Habitat	✓ * 2	Recover to reference condition
Site considerations			
Appropriate boundary	✓ * 3		

Additional comments:

- ¹ The adequacy target for FOCI habitat peat and clay exposures is met within the regional MPA network with the inclusion of the intertidal underboulder clay communities sub-feature of Morecambe Bay SAC.
- ² Viability for the FOCI habitat Peat and clay exposures is reliant upon a minimum patch diameter (0.5km) which is met here. The site boundary includes a large number of discrete peat and clay exposures, some of which are extensive and may individually meet the viability target. The location and extent of the features will change with movement of the overlying sediments.
- ³ The seawards boundary of the site is coincidental with the Sefton Coast SAC for pragmatic/management reasons. The eastern/landward boundary of the site as drawn may have projection errors. The boundary may be most appropriately drawn to MHW. The reference area for peat and clay exposures (rRA Z) appears to be identified and mapped as a separate but contiguous site. Integrating the two sites into one is desirable.
- ⁴ The peat and clay exposures within the site are of high archaeological interest.
- ⁵ The site overlaps with Sefton Coast SSSI/SAC and Ribble and Alt estuaries SPA/Ramsar site, but peat and clay exposures do not receive protection from these MPAs.

Suggested amendments:

- ³ The seawards boundary of the site is coincidental with the Sefton Coast SAC for pragmatic/management reasons. The eastern/landward boundary of the site as drawn may have projection errors. **The boundary may be most appropriately drawn to MHW. The reference area for peat and clay exposures (rRA Z) appears to be identified and mapped as a separate but contiguous site. Integrating the two sites into one is desirable.**

Summary of site benefits:

- The site includes some of the largest peat and clay exposures within the project area.
- The peat and clay exposures contain nationally important archaeological features including Holocene (Stone Age) animal and human footprint preserved in clay exposures (Irish Sea Conservation Zones 2011).

- The archaeological value of the peat and clay exposures has been extensively studied.
- Peat and Clay exposures support an array of mobile and attached fauna. Piddocks excavate holes in peat, which increases topographic complexity thereby increasing species diversity (Fletcher, et al. 2012).

Implications of the site not being designated:

- If the site is not designated, some of the most extensive and important peat and clay exposures within the project area will not receive the protection that they require to recover (rMCZ) or to recover to reference condition (recommended reference area).
- If the site is not designated, the number of sites with FOCI habitat peat and clay exposures assessed as viable by SNCBs will not meet the ENG target.

Site name: rMCZ ISCZ 14 Hilbre Island Group (ISCZ) (Natural England lead)

Table 203 An overview of features proposed for designation within rMCZ14 Hilbre Island Group and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.7 Intertidal biogenic reefs	BSH	✓	✓	X * 1	None	Recover			
Blue mussel <i>Mytilus edulis</i> beds	FOCI Habitat	✓	✓	✓ * 6	None	Recover			
Peat and clay exposures	FOCI Habitat	✓	✓ * 3	✓ * 2	None	Recover			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				NA					
Overlaps with existing MPAs				✓ * 4, 5					

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH Intertidal biogenic reefs, and is therefore considered unviable. It is unclear whether the entire habitat is within the rMCZ boundary – if not the site could potentially be increased to include it though this may have implications with stakeholder support for the site. However, this site was primarily recommended for the two FOCI.
- ² Viability for the FOCI habitats Peat and clay exposures is dependent on patch diameter (0.5km) which is met at this site.
- ³ Inclusion of the intertidal underboulder clay communities sub-feature of Morecambe Bay SAC contributes to meeting the adequacy / viability guidelines for FOCI habitat peat and clay exposures.
- ⁴ The site is encompassed within the Dee Estuary SSSI/SAC/SPA/Ramsar site.
- ⁵ There may be some duplication between the rMCZ and the Dee Estuary SAC. 'Intertidal hard substrate communities' which are a sub-feature of the 'estuary interest' feature (Natural England 2010e) include areas of Holocene deposits that support the nationally important biotope *Mytilus edulis* and piddocks on eulittoral firm clay.
- ⁶ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included so is considered viable.

Suggested amendments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH Intertidal biogenic reefs, and is therefore considered unviable. It is unclear whether the entire habitat is within the rMCZ boundary – **if not the site could potentially be increased to include it though this may have implications with stakeholder support for the site. However, this site was primarily recommended for the two FOCI.**

Summary of site benefits:

- This would strengthen the protection afforded to peat and clay exposures within the Dee Estuary SAC.
- Biogenic reefs play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonisation by other organisms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection. (Fletcher, et al. 2012)
- Mussel reefs are also an important food source for birds and have a strong stabilising effect on the sediment, thereby countering erosive wave action. (Fletcher, et al. 2012)
- Peat and Clay exposures support an array of mobile and attached fauna. Piddocks excavate holes in peat, which increases topographic complexity thereby increasing species diversity (Fletcher, et al. 2012).

Implications of the site not being designated:

- The two FOCI for which the site is recommended may not receive the protection that they require in order to meet their recover objective.

Site name: rMCZ ISCZ 15 Solway Firth (ISCZ) (Natural England lead)

Table 204 An overview of features proposed for designation within rMCZ15 Solway Firth and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Smelt <i>Osmerus eperlanus</i>	FOCI mobile species	✓	✓	N/A * ¹	None	Maintain			
European eel <i>Anguilla Anguilla</i>	FOCI mobile species	✓	✓	N/A * ¹	None	Maintain			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * ^{1, 2}					
Areas of Additional Ecological Importance				✓ * ³					
Overlaps with existing MPAs				✓ * ⁴					

Additional comments:

- ¹ There is no viability target for the three mobile species listed as FOCI however, it should be noted the rMCZ only includes the English side of the Solway. There is evidence for the presence of both species FOCI in the rMCZ. The Scottish side of the Solway is known to be an important area for spawning of smelt, particularly the River Cree (Galloway Fisheries Trust 2012). These may be parts of the same smelt population. The site may not be able to provide adequate protection for smelt FOCI without the equivalent protection on the Scottish side of the Solway. A whole estuary approach to the conservation of both of these species FOCI is recommended to achieve the conservation objectives.

- ² The boundary as drawn does not correctly follow the border with Scotland. The upriver extent of the rMCZ should be defined by the limit of saline influence.
- ³ Other migratory fish species of nature conservation importance such as salmon and sea trout use the estuary. The estuary is an important nursery area for other fish species including bass, pollack and flatfish (Irish Sea Conservation Zones 2011).
- ⁴ The site sits entirely within Solway Firth SAC, Upper Solway Flats and Marshes SPA/Ramsar, and partially within Upper Solway Flats and Marshes SSSI.

Suggested amendments:

- ¹ There is no viability target for the three mobile species listed as FOCI however, it should be noted the rMCZ only includes the English side of the Solway. There is evidence for the presence of both species FOCI in the rMCZ. The Scottish side of the Solway is known to be an important area for spawning of smelt, particularly the River Cree (Galloway Fisheries Trust 2012). These may be parts of the same smelt population. **The site may not be able to provide adequate protection for smelt FOCI without the equivalent protection on the Scottish side of the Solway. A whole estuary approach to the conservation of both of these species FOCI is recommended to achieve the conservation objectives.**

Summary of site benefits:

- Smelt and eel would be afforded some additional protection but less than if the whole estuary was given an equivalent level of protection for these species.
- The rMCZ would help focus further research to get a better understanding of the use of the estuary by smelt and eel.

Implications of the site not being designated:

- Smelt and eel populations in the Solway rMCZ may not receive any additional protection that may be needed to maintain or recover their populations.
- If the site is not put forward, there would be less than three replicates of each FOCI species European eel *Anguilla anguilla* and smelt *Osmerus eperlanus*, in the Irish Sea Region, and therefore ENG guidelines would not be met.

Site name: rMCZ ISCZ 16 Wyre-Lune (ISCZ) (Natural England lead).

Table 205 An overview of features proposed for designation within rMCZ 16 Wyre-Lune and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Smelt <i>Osmerus eperlanus</i>	FOCI mobile species	✓ * 1	✓	N/A	None	Maintain	Replication is at its minimum.		
European eel <i>Anguilla anguilla</i>	FOCI mobile species	✓ * 1	✓	N/A	None	Maintain	Replication is at its minimum.		
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 2					
Overlaps with existing MPAs				✓ * 3					

Additional comments:

- ¹ The FOCI species *Osmerus eperlanus* and *Anguilla anguilla* are only just meeting the minimum target for replication in the Irish Seas project area.
- ² Both estuaries are used as nursery areas by other fish. Salt marsh on the Wyre estuary is used as feeding and nursery area for other fish. (Environment Agency 2011) (Irish Sea Conservation Zones 2011)
- ³ This rMCZ overlaps with Morecambe Bay SAC/SPA/Ramsar/SSSI, Wyre estuary SSSI and Lune Estuary SSSI.

Summary of site benefits:

- Smelt and eel would be protected. They are not currently protected within MPAs. The UK has international responsibility to protect both species which have shown marked declines within the UK.
- Evidence points towards the Wyre having the largest population of smelt in the project area (Environment Agency 2011).

Implications of the site not being designated:

- Smelt and eel populations in the Wyre/Lune may not receive any additional protection needed to maintain or recover their populations.
- If this site is not put forward, there would be less than three replicates of each of the FOCI species European eel *Anguilla anguilla* and Smelt *Osmerus eperlanus*, in the Irish Sea Region, and therefore ENG guidelines would not be met. Furthermore, if rMCZ15 is not viable without an equivalent level of protection being afforded to smelt and eel across the whole estuary, the network will fall further short of the ENG replication target.

Site name: rMCZ ISCZ 17 Ribble Estuary (ISCZ) (Natural England lead)

Table 206 An overview of features proposed for designation within rMCZ17 Ribble Estuary and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent-ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
Smelt <i>Osmerus eperlanus</i>	FOCI mobile species	✓ * 4	✓	N/A	None	Maintain	Replication is at its minimum		
European eel <i>Anguilla anguilla</i>	FOCI mobile species	✓ * 4	✓	N/A	None	Maintain	Replication is at its minimum		
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓ * 1					
Areas of Additional Ecological Importance				✓ * 2					
Overlaps with existing MPAs				✓ * 3					

Additional comments:

- ¹ The upriver extent of the rMCZ should be defined by the limit of saline influence. It is recommended that the boundary on the southern side should be amended to incorporate the area of managed re alignment at Hesketh Outmarsh. This area is likely to be of importance to feeding fish (Environment Agency 2011).
- ³ The site sits partially within Ribble and Alt Estuaries SPA/Ramsar and Ribble Estuary SSSI.
- ⁴ The FOCI species *Osmerus eperlanus* and *Anguilla anguilla* are only just meeting the minimum target for replication in the Irish Seas project area.

Suggested amendments:

- ¹ **The upriver extent of the rMCZ should be defined by the limit of saline influence. It is recommended that the boundary on the southern side should be amended to incorporate the area of managed re alignment at Hesketh Outmarsh.** This area is likely to be of importance to feeding fish (Environment Agency 2011).

Summary of site benefits:

- ² (Irish Sea Conservation Zones 2011) identifies that a number of migratory fish species use the Ribble as a migratory route.
- Smelt and eel would be afforded protection. They are not currently protected within MPAs. The UK has international responsibility to protect both species which have shown marked declines within the UK.
- Recent cessation of dredging has made the estuary and surrounding salt marsh more suitable as a nursery ground for fish (Irish Sea Conservation Zones 2011).

Implications of the site not being designated:

- Smelt and eel populations in the Ribble Estuary may not be offered any additional protection needed to maintain or recover their populations.
- If this site is not put forward, there would be less than three replicates of each of the FOCI species European eel *Anguilla anguilla* and smelt *Osmerus eperlanus*, in the Irish Sea Region, and therefore ENG guidelines would not be met. Furthermore, if rMCZ15 is not viable without an equivalent level of protection being afforded to smelt and eel across the whole estuary, the network will fall further short of the ENG target.

Site name: rRA K Tarn Point (ISCZ) (Natural England lead)

Table 207 An overview of features proposed for designation within rRA K Tarn Point and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Representativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A 2.7 Intertidal biogenic reefs	BSH	✓	✓	X * 1	Viability target is not met.	Recover to reference condition		The site contains some of the best examples of honeycomb worm reef in the project area	The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK
A 3.1 High energy infralittoral rocks	BSH	✓	X * 2	X * 1	Viability target is not met.	Recover to reference condition	Replication is at its minimum for this feature.		
Blue mussel beds <i>Mytilus edulis</i>	FOCI Habitat	✓	✓	✓ * 3	None	Recover to reference condition			
Honeycomb worm reefs <i>Sabellaria alveolata</i>	FOCI Habitat	✓	✓	✓ * 4	None	Recover to reference condition		The site contains some of the best examples of honeycomb worm reef in the project area	The Cumbrian coast has some of the most extensive and best represented examples of honeycomb worm reefs in the UK

A 2.2 Intertidal sand and muddy sand * 5	BSH	✓	✓	X * 1, 5	Viability target is not met.	Recover to reference condition			
A 5.2 Subtidal sand * 5	BSH	✓	✓	X * 1, 5	Viability target is not met.	Recover to reference condition			
Subtidal sands and gravels * 5	FOCI Habitat	✓	✓	X * 5	Viability target is not met.	Recover to reference condition			
A 5.1 Subtidal coarse sediment * 5	BSH	✓	✓	X * 1, 5	Viability target is not met.	Recover to reference condition			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓ * 4					
Overlaps with existing MPAs				X					

Additional comments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH: intertidal biogenic reef, High energy infralittoral rock (and additional BSH Intertidal sand and muddy sand, Subtidal sand, Subtidal sands and gravels, and Subtidal coarse sediment). The site includes the whole of the most extensive *Sabellaria alveolata* reef in the region (Allen 2002) and has a high conservation value as proposed. Smaller good quality *Sabellaria alveolata* reefs extend approximately 3km southwards of the boundary of the site. Extending the site to include these reefs would enable the minimum viability target for Intertidal biogenic reef BSH to be met.
- ² The project area does not meet adequacy guidelines for high energy infralittoral rock, though it is recommended for inclusion to rRA H Allonby Bay.
- ³ Viability for the FOCI habitat Blue mussel beds (*Mytilus edulis*) / is dependent on the whole patch being included where it occurs in discrete locations. In this site, the whole known patch is included so is considered viable.
- ⁴ Viability for the FOCI habitat *Sabellaria alveolata* is reliant upon a minimum viable patch diameter (0.5km) which is met here, and this was the main feature for designation of the site. The recommended reference area also contains small areas of other features.

- ⁵ In addition to the main feature proposed (Intertidal biogenic reefs, High energy infralittoral rocks, Blue mussel beds, and Honeycomb worm reefs), the recommended reference area also contains these other features.

Suggested amendments:

- ¹ This site does not meet the minimum viability criteria (5km²) for the BSH: intertidal biogenic reef, High energy infralittoral rock (and additional BSH Intertidal sand and muddy sand, Subtidal sand, Subtidal sands and gravels, and Subtidal coarse sediment). The site includes the whole of the most extensive *Sabellaria alveolata* reef in the region (Allen 2002) and has a high conservation value as proposed. **Smaller good quality *Sabellaria alveolata* reefs extend approximately 3km southwards of the boundary of the site. Extending the site to include these reefs would enable the minimum viability target for Intertidal biogenic reef BSH to be met.**

Summary of site benefits:

- The site contains some of the best and well-studied examples of honeycomb worm reef within the project area and UK (Irish Sea Conservation Zones 2011, D. Mills 1998). This is the only reference area proposed for intertidal biogenic reef/honeycomb worm reef within the project area.
- The recommended reference area has particular scientific value as the area has been surveyed annually for many years by the Cumbria Sea Fisheries Committee (Lancaster, Cumbrian Sea Fisheries Committee shore survey 2010, Lancaster, North Western Inshore Fisheries and Conservation Authority Cumbrian Shore survey 2011 2012).
- The site is very remote from public access and is subject to only very low levels of disturbance thus leading possible high environmental quality compared to other areas.
- Biogenic reefs play an important role in primary biomass production, and provide a hard substrate and range of microhabitats for colonisation by other organisms. They also provide a significant amount of resistance to wave energy, attributing to coastal protection. The honeycomb worm reefs (*Sabellaria alveolata*) have been shown to have an important trophic role as a primary consumer of phytoplankton through filtering large volumes of water, contributing to improved water quality. (Fletcher, et al. 2012).
- Infralittoral rock is extremely rich in faunal and floral species and is a suitable habitat for inshore commercial fisheries species particularly lobster and crab. Kelp plants associated with this habitat are significant primary producers. From the zone of high water to the depth of light penetration kelp produces 75% of the overall fixed carbon. (Fletcher, et al. 2012).
- Subtidal sediment (includes BSH EUNIS CODES A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- If the site is not designated an opportunity to protect one of the best sites for nationally important honeycomb worm reefs would be missed.

- If the site did not go forward, the regional replication target for High energy infralittoral rocks would not be met.

Site name: rRA T Cuning Point (ISCZ) (Natural England lead)

Table 208 An overview of features proposed for designation within rRA T Cuning Point and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A 1.2 Moderate energy intertidal rock	BSH	X	✓	X * 1	Targets for replication and viability are not met.	Recover to reference condition		The site contains some of the best examples of moderate energy intertidal rock in the project area Rare feature in project area	
A 5.3 Subtidal mud	BSH	✓	✓	X * 1, 2	Target for viability not met.	Recover to reference condition			
Subtidal sands and gravels	FOCI Habitat	✓	✓	X * 2	Target for viability not met.	Recover to reference condition			
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				✓ * 3					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				✓					
Overlaps with existing MPAs				X					

Additional comments:

- ¹ Viability for the BSH is reliant upon a minimum criteria (5km²) which is not met here (approx 0.3 x 1.5 km²). The northern boundary of the rRA T could be extended further north but this would still not meet the minimum target, and this extension may raise stakeholder concerns. However it should be noted that there is still conservation value as the sites contains some of the best examples of moderate energy intertidal rock in the region.
- ² In addition to the main feature proposed (moderate energy intertidal rock), the recommended reference area also contains a small area of other features.
- ³ Cunning Point is also recognised as a RIGGS (Natural England 2012b)

Summary of site benefits:

- The site contains some of the best examples of moderate energy intertidal rock in the project area (Irish Sea Conservation Zones 2011).
- This would be the only site protected for moderate energy intertidal rock within the project area.
- The site is very remote from public access, and may therefore have had less disturbance.
- Intertidal rock habitat provides a particularly rich source of secondary biomass in the UK This habitat provides an important source of larval plankton upon which commercially important fish species feed. It also provides an important natural form of defence from erosion (Fletcher, et al. 2012).
- Subtidal sediment (includes BSH EUNIS codes A5.1 – A5.4) provides important nursery grounds for many ecologically and commercially important fish and support seabirds. Marine sediments have an important role in the global cycling of many elements, including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column. Marine sediments may act as temporary or permanent sinks for pollutants, particularly toxic metals (Fletcher, et al. 2012).

Implications of the site not being designated:

- There would be no moderate energy intertidal rock BSH protected within any MPAs in the project area.

Site name: rRA W Barrow South (ISCZ) (Natural England lead)

Table 209 An overview of features proposed for designation within rRA W Barrow South and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.3 Intertidal mud	BSH	✓	✓	X * 1	Viability target not met	Recover to reference condition			
A2.6 Intertidal sediments dominated by aquatic angiosperms	BSH	✓ * 2	✓	X * 1	Viability, replication, and adequacy targets not met.	Recover to reference condition		Rare feature in project area	
Seagrass beds	FOCI Habitat	✓ * 3	✓	✓ * 1	Replication and adequacy target not met for this feature	Recover to reference condition		Rare feature in project area	
Site considerations									
Connectivity				✓					
Geological/Geomorphological features of interest				None					
Appropriate boundary				✓					
Areas of Additional Ecological Importance				X					
Overlaps with existing MPAs				✓ * 4					

Additional comments:

- ¹ The reference area size is viable for the main feature proposed (seagrass beds FOCI requires a minimum viable patch diameter of 0.5km) and the recommended reference area also contains small areas of other BSH features (which require a minimum criteria of 5km² so not viable here).
- ² This is the only replicate of intertidal sediments dominated by aquatic angiosperms BSH (2 needed), in the MCZ recommendations. However, there are at least two other intertidal seagrass beds protected within South Walney and Piel Channel Flats, and Morecambe Bay SSSI/Morecambe Bay SAC within which the rRA is located so the replication target is met.
- ³ This is the only replicate of subtidal seagrass bed FOCI (3 needed) in the MCZ recommendations. However there are no other subtidal seagrass beds within the regional project area so the ENG guidance on replication is met.
- ⁴ Overlaps with Morecambe Bay SAC/SPA and South Walney Island and Piel Channel Flats SSSI. Seagrass beds are a protected feature of these sites.
- The reference area supports both intertidal species of *Zostera*: *Z. Noltii*, and *Z. marina f. Angustifolia*.

Summary of site benefits:

- Seagrass is a rare feature within the project area. All the seagrass beds are located in the South Walney area, with the exception of some records at St. Bees beach.
- This recommended reference area would provide an additional level of protection for the seagrass beds to recover to reference condition
- The beds, including within the recommended reference area, have been extensively studied and monitored, including by the Natural History Museum, and other consultancies and therefore have high scientific value. (Evans, et al. 2008, Hubble, Clough and O'Keefe 2007)
- The location of the site has been chosen to include the best example of seagrass beds in the area and which is least exposed to public pressure (with potentially higher environmental quality), with strong support from key local stakeholders.
- Both intertidal seagrass beds (predominantly *Zostera noltii*) and subtidal seagrass beds (predominantly *Zostera marina*) are key habitats with high rates of primary production, and are a main source of food for overwintering wildfowl. They act as a nursery ground for juvenile fish, and provide shelter for a wide range of species such as cuttlefish which use seagrass to lay their eggs on. Seagrass beds have an important role in managing climate change by providing carbon storage at approximately 10 times the rate observed in temperate forests per unit area; preventing coastal erosion by dissipating wave and tidal current energy; stabilising sediment through the binding effect of the roots; and aiding pollution regulation prevention through its take up of inorganic nutrients. (Fletcher, et al. 2012)

Implications of the site not being designated:

- The seagrass beds would not be afforded an increased level of protection above the existing SSSI/SAC (that is, to reach reference condition.)

Site name: rRA Y Barrow North (ISCZ) (Natural England lead)

Table 210 An overview of features proposed for designation within rRA Y Barrow North and how these contribute to the ENG guidelines for the regional MCZ project area and at a wider scale

✓ = ENG guideline is achieved and X = ENG guideline is not achieved. Green cells represent key considerations and any greyed-out rows indicate where we do not agree with a feature being proposed for designation. Recommended conservation objectives in italics indicate where we do not agree with the conservation objective recommended by the regional MCZ project (see Section 4.2). Where an asterisk (*) has been given in the table, more detail is provided in the narrative.

ENG Feature	Represent- ativity	Replication	Adequacy	Viability	Gaps or shortfalls in relation to ENG minimum guidelines	Recommended conservation objective	Quantitative considerations at regional MCZ level	Ecological Importance at regional MCZ level	Ecological Importance at wider scale
A2.3 Intertidal mud	BSH	✓	✓	X * 2	None	Recover to reference condition			
A2.5 Coastal salt marshes and saline reedbeds	BSH	✓	✓	X * 1, 2	None	Recover to reference condition			
A5.1 Subtidal coarse sediments	BSH	✓	✓	X * 2	None	Recover to reference condition			
Seagrass beds	FOCI Habitat	✓ * 3	✓ * 3	✓ * 3	None * 3	Recover to reference condition	There is no confidence in presence or extent of feature		

Site considerations	
Connectivity	✓
Geological/Geomorphological features of interest	✓ * 4
Appropriate boundary	✓
Areas of Additional Ecological Importance	X
Overlaps with existing MPAs	✓ * 5

Additional comments:

- ¹ The reference area was proposed for coastal salt marshes and saline reedbeds, and also contains small areas of other features.
- ² This site does not meet the minimum viability criteria (5km²) for the BSH: Coastal salt marshes and saline reedbeds, intertidal mud, and subtidal coarse sediment.
- Although viability is not met for the BSH, it should be noted the site encompasses the full extent of the main feature coastal salt marshes and saline reedbeds, and the ungrazed salt marshes are rare in north-west England, so there is significant conservation value to the designation.
- ³ Although the site would meet replication (as all known seagrass beds are protected), viability and therefore adequacy for the FOCI habitat subtidal seagrass beds, Natural England advises there is no confidence in presence or extent of this feature here, as there are no records of seagrass in this site (Halliday 1997). This is an erroneous entry in the SAD and it is not mentioned in the site description. Natural England advises the feature should be removed from the site listings (H. Morrall IS CZ project ecologist, pers. comm.)
- ⁴ Adjacent to or possibly overlapping Walney Island GCR site.
- ⁵ North Walney NNR, Morecambe Bay SAC, Duddon Estuary SPA and Ramsar.

Suggested amendments:

- ³ Although the site would meet replication (as all known seagrass beds are protected), viability and therefore adequacy for the FOCI habitat subtidal seagrass beds, **Natural England advises there is no confidence in presence or extent for this feature here, as there are no records of seagrass in this site** (Halliday 1997). **This is an erroneous entry in the SAD and it is not mentioned in the site description. Natural England advise the feature should be removed from the site listings** (H. Morrall IS CZ project ecologist, pers. comm.).

Summary of site benefits:

- This recommended reference area would provide an additional level of protection for Annex 1 salt marsh habitat to recover to reference condition.
- The site is in a high state of naturalness as it is currently ungrazed salt marsh.
- Salt marshes are considered to be one of the most productive ecosystems in the world. The economic value of productivity of marshes has been estimated in 1997 at £9,900/ha/yr. Many birds, juvenile fish, crustaceans and molluscs use marshes as nurseries, including commercially important

fish species such as sea bass. Salt marshes are important for climate change, and are known to accumulate sediment and organic matter at a rate that compensates for sea level rise, as well as providing carbon storage at approximately 10 times the rate observed in temperate forests. The IUCN states that salt marshes are “critical components to future carbon management discussions and strategies”. (Fletcher, et al. 2012).

- Intertidal sand, muddy sand and mixed sediments have an important role in fundamental ecosystem processes, including nutrient cycling. Intertidal sediments are important spawning and nursery grounds and provide habitats for various fish species, which contributes to commercial and recreational fisheries benefits. Soft-bottom environments create complex microhabitats supporting abundant populations of microphytobenthos. Estuarine soft sediments support a diverse group of microscopic and macroscopic organisms. (Fletcher, et al. 2012).
- Intertidal mud is a highly productive ecosystem and is an important feeding ground for wading and migratory birds that is available all year round. This habitat plays a crucial role in primary biomass production through the biofilm made up of microalgae at the air-mud interface. Intertidal mudflats are desirable areas for carbon storage due to the higher sedimentation rates than some other habitats such as freshwater wetlands. (Fletcher, et al. 2012)

Implications of the site not being designated

- Salt marsh would not be afforded an increased level of protection above the existing SSSI/SAC (that is, to reach reference condition.)

Table 211 Natural England reassessment of Net Gain replication

		Net Gain original:	(NE Corrected replicates in bold black - removed features added through Mapping error or because area is too small):	Replicates in existing MPAs	Net Gain original:	(NE Corrected replicates in bold black):
		MCZs +RAs taken from NG report	MCZs +RAs taken from NG report		Total replicates (MCZ + RA features not already in MCZs/existing MPAs)	Total replicates (MCZ + RA features not already in MCZs/existing MPAs)
A1.1	High energy intertidal rock	2	2	2	7	4
A1.2	Moderate energy intertidal rock	3	2	4	8	6
A1.3	Low energy intertidal rock	2	2	3	7	5
A2.1	Intertidal coarse sediment	3	2	2	6	4
A2.2	Intertidal sand and muddy sand	3	2	9	15	11
A2.3	Intertidal mud	3	3	11	17	14
A2.4	Intertidal mixed sediments	2	2	2	5	4
A2.5	Coastal saltmarsh and saline reedbeds	1	1	8	19	9
A2.6	Intertidal sediments dominated by aquatic angiosperms	0	0	1	6	1
A2.7	Intertidal biogenic reefs	0	0	2	2	2
A3.1	High energy infralittoral rock	4	4	1	6	5
A3.2	Moderate energy infralittoral rock	4	4	0	4	4
A3.3	Low energy infralittoral rock	0	0	0	3	0
A4.1	High energy circalittoral rock	1	1	1	2	2
A4.2	Moderate energy circalittoral rock	5	5	0	5	5
A4.3	Low energy circalittoral rock	1	1	0	1	1
A5.1	Subtidal coarse sediment	11	10	5	16	15

A5.2	Subtidal sand	12	12	6	19	18
A5.3	Subtidal mud	2	2	3	7	5
A5.4	Subtidal mixed sediments	8	8	3	12	11
A5.5	Subtidal macrophyte-dominated sediment	0	0	0	1	0
A5.6	Subtidal biogenic reef	0	0	2	6	2
A6	Deep-sea bed	0	0	0	0	0
	Blue mussel beds	1	1	2	3	3
	Esturine rocky habitats	2	2	3	6	5
	Horse mussel <i>Modiolus modiolus</i> beds	0	0	0	0	0
	Intertidal underboulder communities	2	2	3	5	5
	Littoral chalk communities	2	2	1	3	3
	Mud habitats in deep water	0	0	0	0	0
	Peat and clay exposures	4	4	0	4	4
	Ross Worm <i>Sabellaria spinulosa</i> reefs	2	2	4	7	6
	Seagrass beds	0	0	3	5	3
	Sea-pen and burrowing megafuna communities	0	0	1	1	1
	Sheltered muddy gravels	2	2	2	4	4
	Subtidal chalk	3	3	1	4	4
	Subtidal sands and gravels	13	13	6	18	19
	Tide-swept channels	0	0	0	0	0
	Tentacled lagoon worm <i>Alkmaria romijni</i>	0	0	1	1	1
	Ocean quahog <i>Arctica islandica</i>	2	2	0	2	2
	Burgundy maerl paint weed <i>Cruoria cruiaeformis</i>	0	0	0	0	0
	Lagoon sand shrimp <i>Gammarus insensibilis</i>	0	0	1	3	1
	Amphipod shrimp <i>Gitanopsis bispinosa</i>	0	0	0	0	0
	Stalked jellyfish <i>Halicystus auricula</i>	0	0	0	0	0
	Short snouted seahorse <i>Hippocampus hippocampus</i>	0	0	0	0	0
	Starlet sea anemone <i>Nematostella vectensis</i>	1	1	1	4	2

	Native oyster <i>Ostrea edulis</i>	0	0	0	0	0
	Spiny lobster <i>Palinurus elephas</i>	0	0	0	0	0
	Common maerl <i>Phymatolithon calcareum</i>	0	0	0	0	0
	Lagoon sea slug <i>Tenellia adspersa</i>	0	0	0	0	0
	Smelt <i>Osmerus eperlanus</i>	1	1	0	1	1

Annex 6 Inshore and offshore fisheries standardisation methodologies

A6.1. Inshore fisheries standardisation methodology

A6.1. Aims

A6.1.1. This Annex aims to provide the detailed methodologies on fisheries activity standardisation for the inshore and offshore area.

A6.1.1. Introduction

A6.1.2. Understanding whether fishing exposure is high, medium, low or not exposed for a given gear type is important for setting conservation objectives for Marine Conservation Zones (MCZs). Exposure to a pressure is used with the sensitivity of a given feature to generate a vulnerability assessment and the vulnerability assessments are ultimately used to determine the conservation objective of a feature within an MCZ (Natural England & JNCC 2011a). To this end, it is imperative that assessments of exposure are nationally consistent so as to ensure that identical features exposed to matching pressures are given the same conservation objective. The current assessments of fishing exposure presented to Natural England from the regional projects are not nationally standardised and are therefore likely to result in inconsistent conservation objectives across the MCZ network. This paper describes a new approach to determining a nationally standardised exposure assessment for multiple fishing gear types across the MCZ network and is proposed to be used to enhance Natural England's advice to Defra in setting MCZ conservation objectives.

A6.1.2. The current problems

A6.1.3. On analysis of the regional projects' recommendations during a quality control workshop (13-16 June 2011), Natural England was concerned by the lack of transparency and audit trail of evidence with respect to the assessment of fishing exposure. It was identified during this workshop that whilst the regional projects remained consistent with their fishing exposure assessments within their regional project area, they were not considering them in the wider national context, and neither were they asked to. The ramifications of these inconsistent fishing exposure methods between regions meant that the vulnerability assessments and thus conservation objectives would also be inconsistent. As a result of this, management measures for a given feature exposed to an identical pressure would be different in different regional project areas. This was unacceptable to Natural England.

A6.1.4. Furthermore, even within the regional projects, fishing exposure assessments were not undertaken according to any pre-set criteria. In a large number of instances, stakeholders influenced the conservation objectives of the site based upon their perceived levels of fishing exposure. Stakeholder perceptions of exposure were at a regional level and not put into the national context. For example, fishers assessing exposure of beam trawlers in the south-west (where UK beam trawling activity is high) are likely to have different perceptions on exposure levels to fishers assessing beam trawling exposure in the north-east (where UK beam trawling is relatively low). In other words there was no national consideration of what units of fishing activity 'high' would correspond to therefore resulting in different scales for comparison. This was also considered unacceptable and because of this a nationally consistent method to identify fishing exposure was required.

A6.1.3. Method

A6.1.5. Understanding the spatial distribution of human activities at sea is crucial for effective management. We have detailed information on the spatial distribution of UK and foreign fishing vessels that are over 15 metres in length overall (LOA). However, most fishing vessels (87%) are <15m LOA and are

not required to carry a vessel monitoring system (VMS) and so data describing the spatial distribution of smaller inshore fishing vessels at a resolution required for setting conservation objectives is limited. There are a number of data sources and analyses that can be used to spatially quantify inshore fishing effort and these all have their limitations with respect to the required outputs of this work. However, for this work, Natural England opted to remain true to the principles of the MCZ Project as a stakeholder led process by using Fisherman data for determining exposure of features to fishing activity. Fisherman is a participatory mapping project that uses information provided by many hundreds of fishermen on the locations of their fishing activities whilst at sea.

A6.1.6. Each regional project followed the same Fisherman methodology (des Clers, et al. 2008), produced activity maps for a range of gear types and presented their activity maps using the number of vessels interviewed (one vessel = one interview) as the unit of activity⁷⁶ (**Figure 20**).

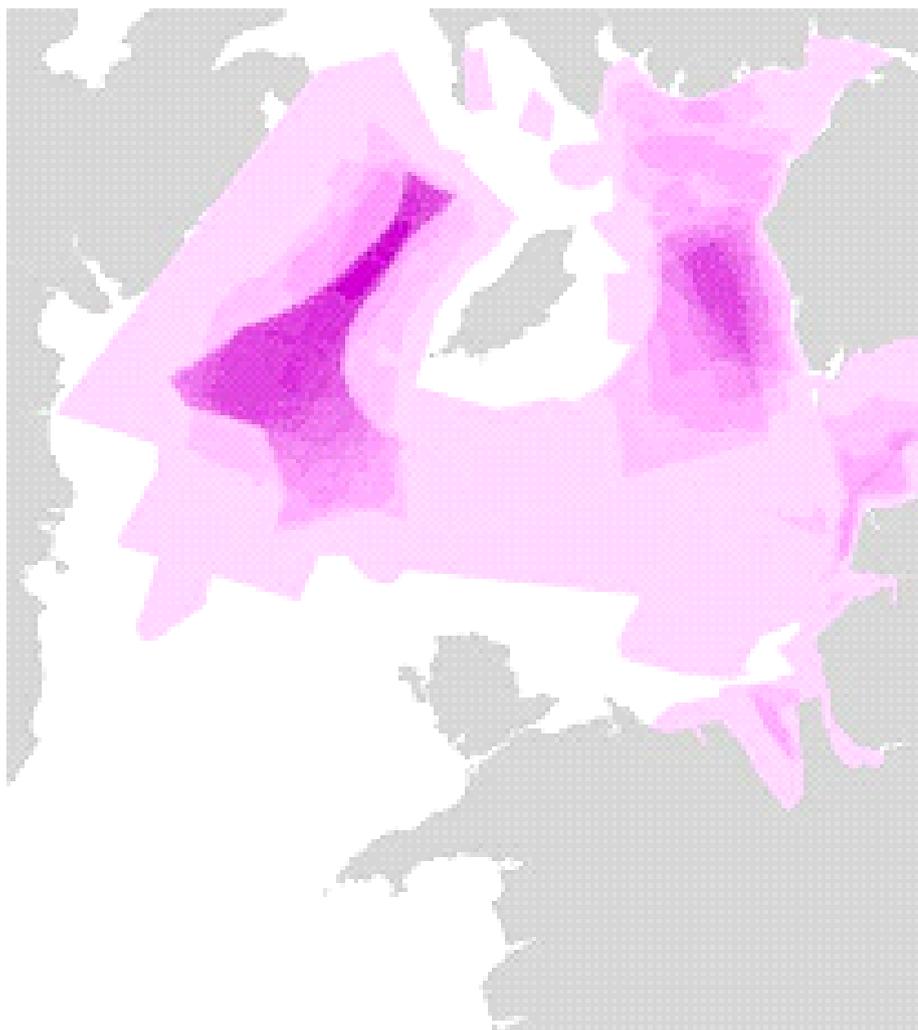


Figure 21 An example of a Fisherman output: Demersal trawling in the Irish Sea

A6.1.7. A key limitation of the Fisherman output in using it to define national exposure levels is that the data (colours on the map) represent the number of interviewees (fishermen) who said they fished in a given area using a given gear. Whilst this serves well to assess relative exposure at a regional level, there is no contextual information as to what the number of interviews represents in terms of the actual fleet size for that region. For Fisherman to be used nationally, the sample size of Fisherman (that is, what proportion of the fleet was interviewed) would need to be understood so that the outputs could be comparable and standardised between regional project areas.

⁷⁶ It should be noted that a single vessel may employ different gear types. Maps of activity are presented for each gear group (as different gears exert different pressures on features). As a result, total numbers of vessels appear higher than actual numbers. As categories of exposure are relative this difference is immaterial in the context of this method.

A6.1.8. For example: if 10 demersal trawlers were interviewed for Finding Sanctuary and 10 for Net Gain, they would both display their data equally if actual fleet size was not considered (see left column in **Figure 22**). However, assume Finding Sanctuary only interviewed 10 boats from a possible 100 and Net Gain 10 from 20. In order for the interviews to be representative of the fleet the data would have to be raised according to the fleet size. So the actual, fleet raised figures would be changed in order to be nationally comparable (see right column in **Figure 22**).

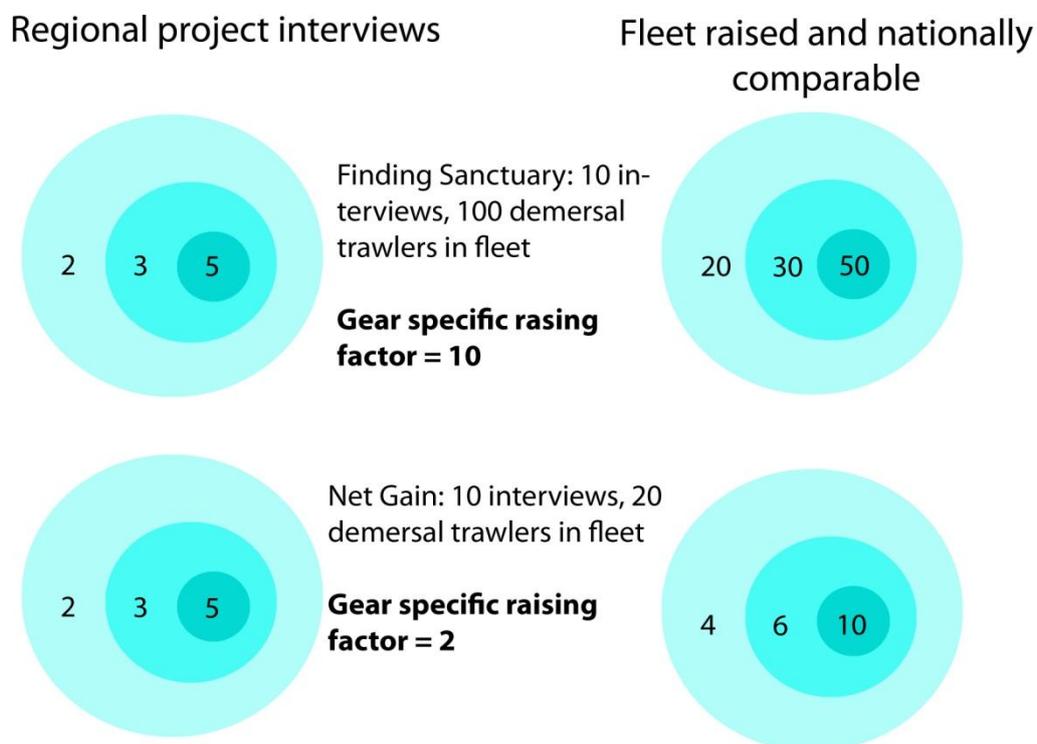


Figure 22 Schematic demonstrating limitations of not raising Fisherman data to fleet level

A6.1.4. Raising regional Fisherman data to fleet level

A6.1.9. Source data for the estimation of fishing effort for the under 15m LOA fleet comes from two sources:

- Fisherman data, which were used to model the spatial distribution of effort
- iFish landings records. These were used to estimate total fleet size.

Fisherman data

A6.1.10. Fisherman effort mapping was collected during the period 2007–2010. It used a structured interview with the ship's skipper to capture information on the fishing grounds worked by a given vessel. This information included the extent of the fishing ground, the gears used and the identity of the vessels involved. A stratified sampling methodology was employed, where liaison officers interviewed a representative proportion of the mobile and static fleets for each major homeport. As the survey progressed it was decided to focus effort on interviews with skippers of boats under 15m. Only these interviews are used within this scaling exercise. Due to the limited time available for interviews there are likely to be significant biases towards:

- Boats greater than 10m LOA that operate out of the larger home ports
- Boats using static gears which frequently return to their home port in order to land their catch

- Boats that are based in the region. Boats that are working within the regional project area but based elsewhere are less likely to be interviewed.

A6.1.11. Other limitations of Fishermap are:

- Fishing activity that does not require a boat is likely to be under-recorded
- Variation in the types of fishing patterns between gear types affects the represented outputs (that is, different fishermen described fishing activity differently on the questionnaires); such that accuracy is likely to vary with scale of activity (areas of fishing rather than defined fishing grounds are identified).

A6.1.12. Within the south-west a further confounding factor is the use of the Cornish Fishing Producers Organisation (CFPO) effort mapping as a proxy for Fishermap data to describe the Cornish fleet. This uses a much broader gear classification than Fishermap, does not identify individual vessels and uses a lower spatial resolution to record boat presence (1 square km). All of these factors lead to the exposure estimates for inshore fishing in Cornish waters being less reliable. The CFPO survey also has a survey area boundary that roughly corresponds to the extent of the Cornish Inshore Fishing Conservation Authority (IFCA) boundary. Cornish boats operating outside of this boundary have not been recorded, possibly leading to fishing effort in Devon being under represented. Some Fishermap data exists for the inshore Cornish fleet. The activity described by this data is centred on the Scilly Isles and the south-west coast of Cornwall.

A6.1.13. The Fishermap survey classified fishing gear into the following broad classes: bottom trawls, dredges, midwater trawls, nets, pots and hooks. Both of the trawl classes include some seining – the seines included within the bottom trawl gear class all make contact with the seafloor. Midwater trawling includes ring netting, an activity which is poorly described by the classification system used within VMS. In general, when the suite of gears recorded for a given vessel is compared with the gears reported in the iFish landings records for the same vessel, ring netting is recorded as gill netting.

iFish landings records

A6.1.14. In order to raise the sample of under 15m LOA fishing vessels up to the level of fleet activity, iFISH landings records for the period 2007–2010 were used to identify total fleet size. Unique UK vessels under 15m LOA were identified using a combination of RSS number, PLN number, length, nationality and administration port. The location of a vessel's administration port was then used to assign a record to the appropriate regional project's fishing fleet (**Table 212**).

Table 212 Assignment of Marine Management Organisation administration port to regional project

Administration Port	Regional Project
Brixham	Finding Sanctuary
Fleetwood	Irish Sea Conservation Zone
Grimsby	Net Gain
Hastings	Balanced Seas
Lowestoft	Net Gain
Newlyn	Finding Sanctuary
North Shields	Net Gain
Plymouth	Finding Sanctuary
Poole	Finding Sanctuary
Scarborough	Net Gain
Unknown	

A6.1.15. These data were then used to estimate fleet size within each regional project (**Table 213**). Eighty-four vessels with unique RSS numbers and 'Unknown' administration port were excluded from this estimation of fleet size. The Marine Management Organisation (MMO) landings records also have an unknown number of vessels assigned to group categories for unidentified boats under 10 metres and between 10 to 15 metres in length. These records have also been excluded from the estimate of fleet size. Similarly vessels under 10m, for which there is no requirement to record landings in iFish are also excluded⁷⁷.

A6.1.16. In order for the interviewee data to be representative of the fleet in a regional project area, interviewee counts by gear grouping have to be multiplied by their gear specific raising factors (**Table 213**). This allows the sample sizes from each Fishermap region to be on the same scale, enabling comparison between projects and a nationally consistent exposure datalayer.

1. Raising factor = iFish landings records / Fishermap interviews
2. Gear group raised interview effort = Fishermap interviews (by gear group) x raising factor

A6.1.17. All vessels whose administrative port was outside of England were excluded from this analysis and are therefore not accounted for in the estimation of fishing activity used in the fisheries standardisation. This decision was made on the assumption that the Fishermap samples of Welsh, (Northern) Irish, Manx, Scottish and non-UK vessels would be a very small subset of the fleet activity and would not be representative. A further consideration was the complexity of raising 'non-English' fleet activity where the total fleet operating out of a given administrative region may not be active within English waters. This issue could be partially addressed through the use of the iFish landings records to calculate total fleet size per International Council for the Exploration of the Sea (ICES) rectangle.

A6.1.18. A key assumption made by this methodology is that Fishermap effort is a representative sample of the spatial distribution of fishing within UK waters. This has been broadly confirmed in meetings with the commercial fishing industry and in some cases with comparisons with IFCA monitoring – however there will be instances (such as South Devon) where the relative importance of fishing grounds may be misrepresented⁷⁸.

A6.1.19. In a number of instances, the iFish fleet contained fewer boats than the Fishermap population for that gear type:

⁷⁷ If vessels have no licence to fish commercially, pressure exerted on habitats is likely to be very limited.

⁷⁸ Fishermap does not reflect variation in intensity or as a result of seasonality, therefore the number of times a vessel fished in a given area cannot be determined. The exposure maps therefore only reflect the relative number of vessels fishing, not the relative intensity.

- This was generally the case with midwater trawls. In these cases the Fisherman value was used without processing, the assumption being that the entire fleet had been sampled by Fisherman. The discrepancy between iFish and Fisherman is likely to be a result of mis-recording of gear types on iFISH – i.e. midwater trawlers may often pair-trawl, which requires two vessels, although only one may be recorded as making the landings and therefore on iFISH. iFISH would therefore be an underestimate of vessel number in this case
- Balanced Seas dredging fleet has a sample size greater than the fleet size. In this case it was decided to consider the Fisherman sample as being representative of the entire fleet. The discrepancy between iFish and Fisherman is likely to be a result of mis-recording of gear types on iFISH, where trawling could be described as dredging and vice versa
- Due to the broader gear classifications used by the CFPO survey it did not seem appropriate to use those sample sizes as fleet estimates. As a result Natural England assigned the total interview number to each gear type used in this study (as it was not possible to identify the relative proportions of each gear type). All CFPO data have been scaled using the standard formula as described in **A6.1.16**, in order to identify the gear-group raised interview effort. This scaling exercise is likely to have overestimated effort for gears with low iFISH values and underestimated effort for high iFISH values. As a result, the results for Cornwall should be considered carefully and may have low confidence.

Table 213 Fisherman interview sample sizes (Fisherman) and iFish fleet estimates by regional project

Gear group	Net Gain		Balanced Seas		Finding Sanctuary		ISCZ		CFPO	
	Fisherman	iFish	Fisherman	iFish	Fisherman	iFish	Fisherman	iFish	Fisherman	iFish
Bottom Trawls	108	518	93	151	55	337	32	89	140	245
Dredges	28	57	86	55	42	232	6	6	140	53
Midwater trawls		19	82		34	16	5	2	140	7
Pots and traps	246	605	140	187	167	550	10	17	140	272
Hooks	111	222	54	82	104	401		6	140	389
Nets	168	389	172	381	142	696	29	38	140	404

A6.1.5. Vessel counts using Vessel Monitoring System data

A6.1.20. Fisherman data is presented as individual vessel counts and does not measure duration spent on the ground. As Fisherman data was our key dataset for understanding the spatial distribution of the inshore fleet, then the Fisherman method dictated our use of the VMS data. To this end, we use individual vessel counts for both VMS and Fisherman data combined as a proxy for fishing effort.

A6.1.21. The key limitation in using vessel counts is that the data do not take account of whether a vessel is in a grid cell for 1 day or 100 days. As a result Fisherman data cannot indicate if a vessel fishes an area intensively, i.e. every day of the year or rarely, perhaps only a few days a year. In other words Fisherman does not describe frequency of activity, it simply indicates existence of activity. When considering exposure for a vulnerability assessment, frequency should be a key concern, as two areas with the same number of vessels may actually have different levels of exposure in terms of frequency. VMS data arguably provides an improvement in quantifying the frequency of activity as the number of hours per vessel fished are available. However, Natural England must use Fisherman data (as detailed in **A6.1.20**). As a result Natural England undertook the following analysis, to assess the extent to which the number of vessels can equal the number of hours in accurately describing the degree of exposure. To determine this Natural England undertook a regression analysis of vessel counts and hours data for two gear types - dredging and demersal trawling, which demonstrated that vessel numbers as a suitable proxy for fishing effort in hours as these units of frequency had a statistically significant correlation (with r^2 values of 0.74 ($P < 0.01$) and 0.67 ($P < 0.01$) respectively). This was achieved by applying thresholds (according to the quartiles method described at **paragraph A6.1.9**) to both count and hours VMS data for demersal

trawling. Of the exposure thresholds applied, 7978 thresholds from a total of 9699 (82%) were the same for count and hours data (**Figure 23**). In other words, in 82% of the comparisons between count and hours data, the results were the same, irrespective of the measure of exposure. Given this high correlation, Natural England are confident that using vessel count is a suitable proxy for a more detailed unit of exposure (hours) and that this is therefore a valid approach to describing exposure. Furthermore, vessel counts are a preferred method when dealing with static gears as effort calculations derived from the Fishing Activities Database (FAD) are arbitrary and not presented in hours fished, unlike mobile VMS data. In the absence of UK-wide, high resolution inshore VMS, Natural England considers vessel counts to be spatially representative of fishing effort.

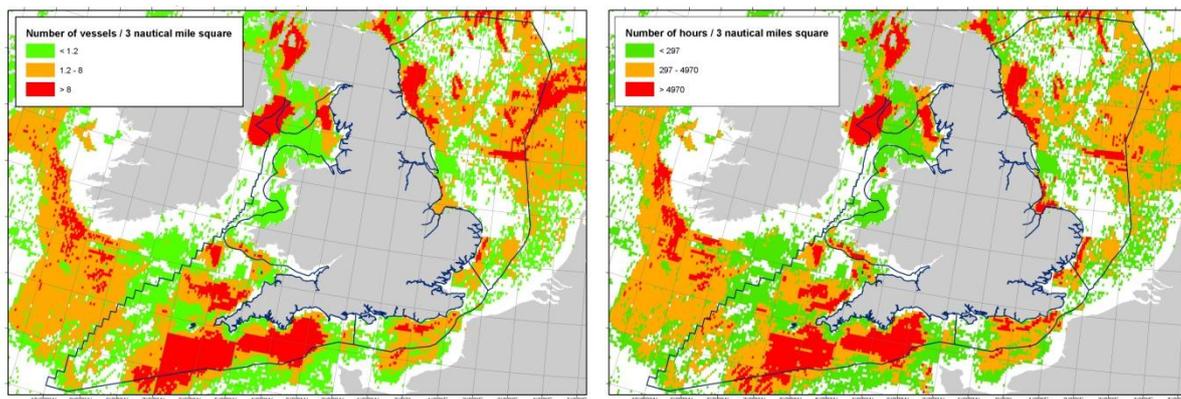


Figure 23 Demersal trawl threshold maps for count and hours

Note: Threshold values are different to those shown in **Table 214** for this gear type as only Vessel Monitoring System data used.

A6.1.6. Limitations of VMS data

A6.1.22. UK VMS has a strong relationship between recording of gear use and recording of location. Errors may occur if a boat changes gear at sea, particularly if a boat only operates within a single ICES rectangle⁷⁹. Based on an assessment of Fisherman records vs reported gear use in the iFish landings records, VMS gear classes may be subject to a degree of interpretation, with many people describing a range of pelagic trawling techniques as netting. There is little error in the recording of demersal gears.

A6.1.23. The use of a 6 knot threshold to determine whether a boat is working or in transit is valid, but possibly a little high – Recopesca (<http://wwz.ifremer.fr/peche/Les-defis/Les-partenariats/Avec-les-professionnels/Recopesca>) found that the threshold speed was closer to 4 knots.

A6.1.24. The use of VMS pings to evaluate static gear effort is always going to lead to an underestimation due to 'soak time' not being recorded.

A6.1.25. EU VMS data may only be reporting on the primary gear that a boat is registered to use. This has several implications:

- A boat that changes its gear may have its activity patterns ascribed to a completely different gear (for example, a trawler's trawl lines are reported as potting grounds)
- Boats without fixed plant (smaller potters, netters, lines) are unlikely to have the full range of their activities mapped out correctly.

⁷⁹ Where a vessel changes gear type this is registered in the next ICES rectangle the vessel passes into, such that (as with Fisherman) one vessel may use more than one gear type. If gear types are changed entirely within an ICES rectangle, this will not be logged and therefore not represented.

A6.1.26. Non-EU VMS - Non-EU vessels do not have any gear recorded and have been excluded from these analyses.

A6.1.7. Merging fleet raised Fisherman data with Vessel Monitoring System data (UK and EU)

A6.1.27. Fishing effort recorded by Fisherman, UK and EU VMS was converted into unique vessel counts per by 0.05 by 0.05 degree grid square. The three layers of grid squares (Fisherman, UK VMS and EU VMS) were then summed together to get a total count of vessels by gear group.

A6.1.8. Standardising vessel exposure

A6.1.28. Grid cells vary slightly in area depending on whether they are in the northern or southern latitudes of the regional project area (Min = 4.98 nm², Max = 6.03 nm²). To this end exposure was standardised by dividing the vessel numbers by the area of the grid to give vessel counts per nautical mile square.

A6.1.29. In many cases, and especially in estuaries etc., 0.05*0.05 degree grid cells overlapped land. In order to prevent underestimating exposure in these coastal grid cells, care was taken to only calculate the fishable area of a grid cell for assessing exposure. A fishable area was calculated as anything below mean low water.

A6.1.9. Setting exposure thresholds

A6.1.30. Thresholds for whether fishing effort was considered high, medium or low were set relative to the vessel counts per nautical mile square observed in each of the grid cells for each gear group across the entire MCZ Project area. Thresholds were set arbitrarily based upon the data spread with 0–25% considered low exposure, 25–75% moderate exposure and 75+% high exposures (**Figure 24** and **Figure 25**). Thresholds for high, moderate and low fishing exposures were calculated for each gear group (**Table 214**). Grid cells for each gear group were coloured green (low) amber (moderate) or red (high) according to those values calculated and presented in **Table 214**. Exposure maps coloured for thresholds of high, moderate and low are presented for each gear group in **Figure 27**.

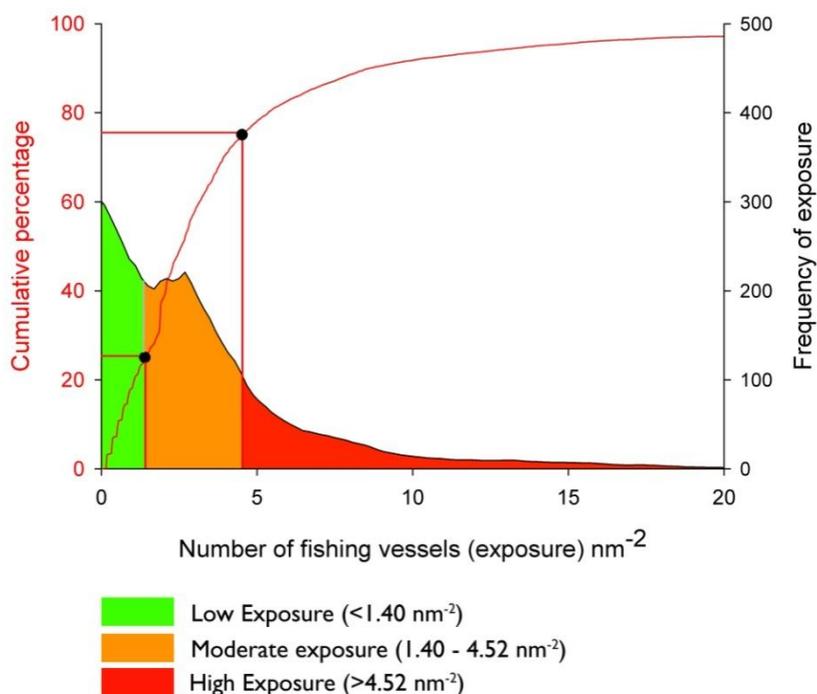


Figure 24 Frequency of vessel exposure (nm²) by 0.05 by 0.05 degree grid square and cumulative percentage curve used for identifying thresholds

Table 214 Exposure levels by gear group

Gear group	Exposure (vessels nm ⁻²)		
	Low	Moderate	High
Bottom trawls (demersal trawl)	<1.4000	1.4000–4.5200	>4.5200
Dredges	<0.3300	0.3300–1.6300	>1.6300
Lines (hooks)	<0.3900	0.3900–3.2400	>3.2400
Nets	<0.5201	0.5201–3.6736	>3.6736
Midwater trawl	<0.1695	0.1695–0.3569	>0.3569
Pots and traps	<0.4600	0.4600–2.5700	>2.5700

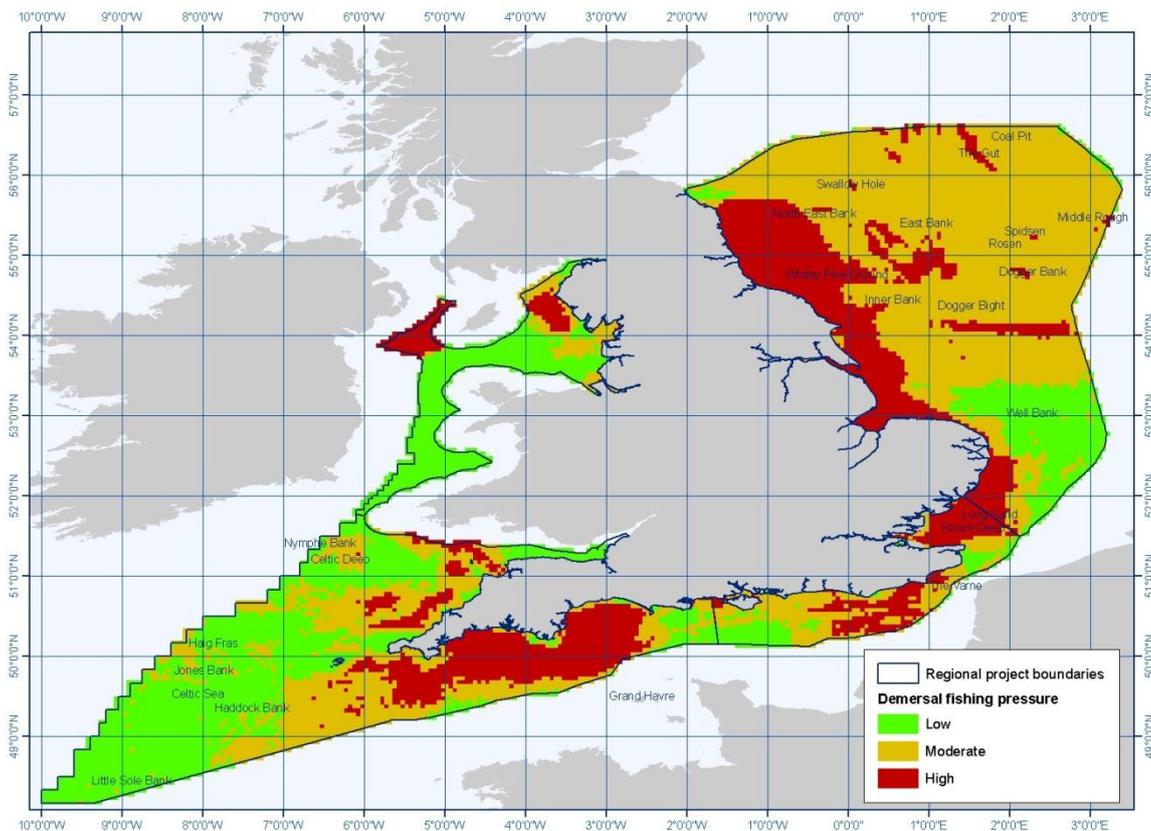


Figure 25 Vessel counts by 0.05*0.05 degree grid cells for demersal fishing vessels

A6.1.10. Features with multiple exposures

A6.1.31. Most features within an MCZ will have multiple exposure data. In some instances, the feature might be many hundreds of nm² in area and be subjected to several hundred different exposures – this is certainly the case for the broad-scale habitats. These exposures might range considerably from not exposed to high exposure to fishing. The Conservation Objectives Guidance requires that one exposure level is assessed for each feature within an MCZ to assess vulnerability. With that in mind, establishing a single exposure level to a given feature when there is variation requires careful consideration. One approach would be to use the precautionary principle and take the highest exposure value to set the exposure level to. However, consider a site where 99 of the exposure grids report no fishing activity for a given gear group and one grid has high exposure. Would it be reasonable to default the whole site to high exposure causing a recover conservation objective?

A6.1.32. Natural England believes that where there is high uncertainty in the exposure of a feature then the precautionary principle should be applied. But if however, as in the example above, the uncertainty is low then the mean exposure should be used to set the exposure level.

A6.1.33. The conservation objectives are designed to protect the features. Therefore, when considering exposure levels of a grid cell this should be taken into account. For example, if a 0.05*0.05 (which equates to say 5nm²⁸⁰) degree grid cell has a vessel count of 10, but that grid cell is only over 90% of the feature, then exposure level must be adjusted to represent the exposure over the feature (i.e. 5 (0.9*10)) (Figure 26, Table 215). An assumption we make here is that fishing effort is evenly distributed across the grid cell.

A6.1.34. The example in Figure 26 is a schematic of a hypothetical MCZ with one feature. The feature (hashing) is present in three of the four grid cells and the amount to which the exposure overlays the feature varies (90, 35, 60 and 0%). It is therefore important that a weighting is applied to exposure grid cells based upon their proportion of total feature within the whole MCZ. For example, Figure 25 B shows how 49% of the MCZ feature is exposed to a vessel count of 9, 32% is exposed to a vessel count of 3.6 and 19% to a vessel count of 0.7).

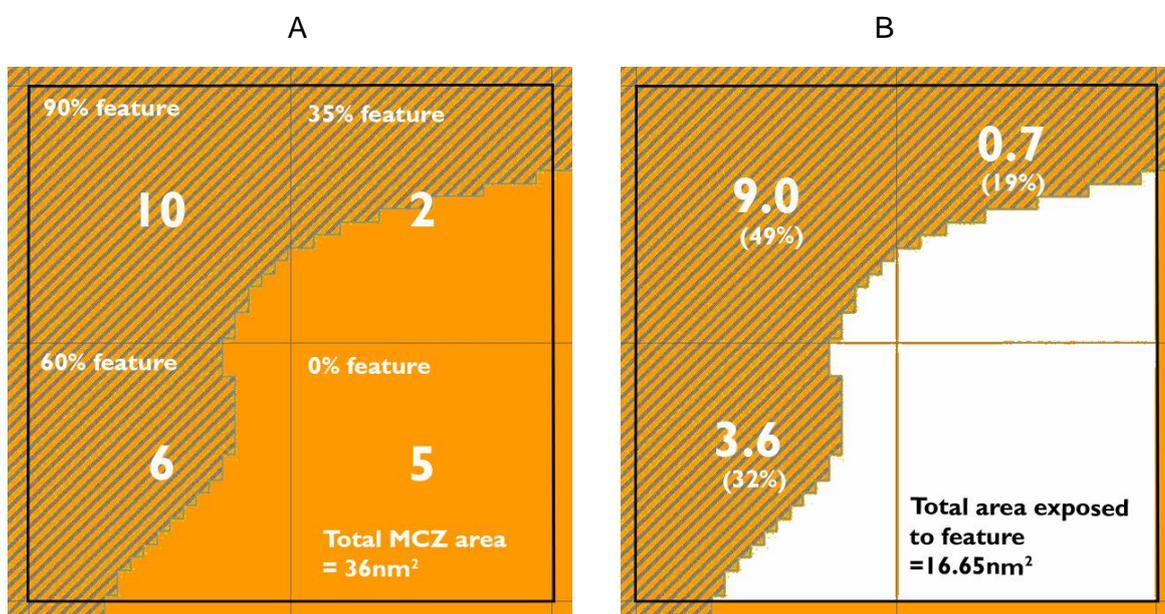


Figure 26 A hypothetical MCZ (black outline) with four grid cells of varying exposure protecting a single feature (blue hash)

⁸⁰ 0.05 by 0.05 degree grid cells vary in area (Min = 4.98nm², Max = 6.03nm²). In this example 5nm² is used simply to illustrate the methodology.

Table 215 Method of handling MCZs with multiple exposures

Column ID			A	B	C	D	E
Formulae						A*C	B*C
MCZ	Feature	Exposure grid	Grid area* (nm ²)	Number of vessels (boats per grid area)	Feature exposed (%)	Area of feature exposed (nm ²)	Exposure on feature (boats per grid cell of feature)
1	Subtidal sand	1	5	10	0.9	4.50	9
1	Subtidal sand	2	5	2	0.35	1.75	0.7
1	Subtidal sand	3	5	6	0.6	3.00	3.6
1	Subtidal sand	4	5	5	0	0.00	0
Total			20	23		9.25	13.3

* Grid area was adjusted for longitudinal variation

A6.1.35. To understand how the exposure variation affects our confidence in which exposure values we use for setting exposure levels in a site we must calculate the variation of exposure on a feature. Standard deviation (SD) is a numerical measure used to assess how confident we are in the estimate of a mean. The relationship between SD and the mean is called the coefficient of variation (CV) and is a measure used for comparing standard deviations when the means are widely different.

A6.1.36. We calculate the mean, SD and CV for the hypothetical example above (**Table 215**). If MCZ features are designated on point data and not polygon data as in this example then the exposures will be taken from the grid cell(s) that the point(s) lie within.

Table 216 Assessing variation (CV) of exposure

Grid	Exposure (E)
1	9.00
2	0.70
3	3.60
4	0.00
Total	13.30
Mean	4.4381
SD	4.21
CV	0.95

(E) refers to the column ID in **Table 215**

A6.1.11. Precautionary principle or mean exposure?

A6.1.37. Confidence about a mean is described by its coefficient of variation. Mathematically, high confidence in the mean being correct would be expressed by a low CV (<1) and low confidence expressed by a high CV (>1). Therefore if:

⁸¹ This is the mean of the **exposed** cells only, as the assessment is of the average level of exposure.

CV<1 = Mean exposure should be used to set exposure level

CV>1 = Precautionary principle should be applied and Maximum exposure used to set exposure level

A6.1.38. Applying the method – In this example we select three hypothetical MCZs designated for subtidal coarse sediment (**Figure 27**) exposed to demersal trawling.

A – 50% low (green) and 50% moderate (amber) exposure

B – All high exposure (red)

C – mostly low (green) exposure to demersal trawling

A6.1.39. From the analysis of these three sites, two sites - B and C, have coefficients of variation that are greater than 1 (**Table 217**). That is to say, Natural England would not be confident in using the mean fishing exposure for these sites due to the level of variation about the mean and so the precautionary principle would be applied. In the MCZ C, the maximum exposure (11.00 vessels) will be used to set the exposure level for this site as the confidence about the mean exposure is low (CV is greater than 1). The ramifications of switching from mean exposure to maximum exposure for this site will change the exposure level from low to moderate (**Table 217**).

A6.1.40. In MCZ B, the maximum exposure (42.58 vessels) will be used to set the exposure level for this site as the confidence about the mean exposure is low (CV is greater than 1). The ramifications of switching from mean exposure to maximum exposure for this site will change the exposure level from moderate to high (**Table 217**).

A6.1.41. High confidence in the mean exposure levels for MCZ A (CV<1) means the exposure level for this site remains low.

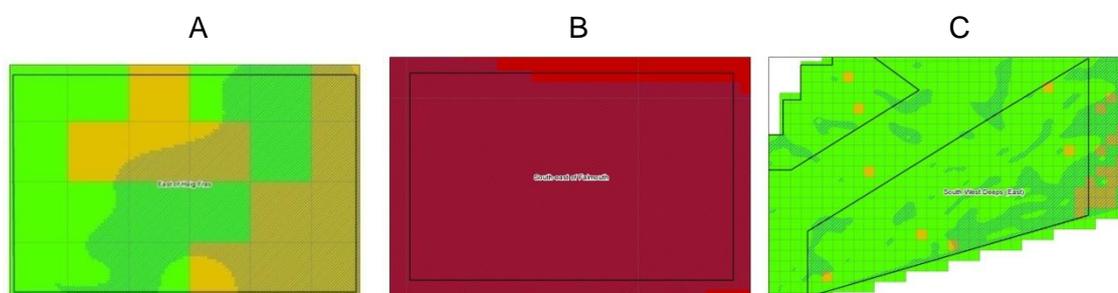


Figure 27 Demersal trawling exposure on three MCZs (A,B,C) green=low exposure, amber = moderate exposure, red=high exposure

Table 217 Analysis of exposure for three hypothetical MCZs

Site	Mean grid cell area (nm ²)	MEAN exposure (boats per grid cell)	MAX exposure (boats per grid cell)	CV	Exposure level used for threshold setting	Boats per nm ²	Exposure threshold
A	5.75	5.66	9.14	0.51	5.66	0.98	Low
B	5.81	16.40	42.58	1.18	42.58	7.33	High
C	5.96	1.38	11.00	1.26	11.00	1.85	Moderate

Applying the method to Vulnerability Assessments

Vulnerability of MCZ features

A6.1.42. The Ecological Network Guidance (ENG) (Natural England and the Joint Nature Conservation Committee 2010) details how the likely impact of a pressure on an MCZ feature (also termed ‘vulnerability’) can be determined by combining information on sensitivity and exposure. **Table 218** shows how example scores for ‘sensitivity’ and ‘exposure to pressures’ are multiplied to derive a coarse grading for feature vulnerability.

Table 218 Determining a vulnerability score based on exposure and sensitivity

Relative exposure of the MCZ feature to a specific pressure	Relative sensitivity of the MCZ feature to a specific pressure			
	High (3)	Moderate (2)	Low (1)	None detectable (0)
High (3)	9	6	3	0
Moderate (2)	6	4	2	0
Low (1)	3	2	1	0
Not Exposed (0)	0	0	0	0

A6.1.43. Note that the level of likely impact (vulnerability) will always be categorised ‘insufficient information to make any assessment’ in cases where there is inadequate information to assess either the exposure OR sensitivity of a given feature.

A6.1.44. The vulnerability of a feature to a given pressure (fishing) is then categorised according to **Table 219** below.

Table 219: Vulnerability categories

High vulnerability	6 to 9
Moderate vulnerability	3 to 5
Low vulnerability	1 to 2
No known vulnerability	0
Insufficient information to make any assessment	

A6.1.12. Sense checking conservation objectives

A6.1.45. If exposure of a sensitive feature to a given gear grouping is high then the likely outcome is that there will be high vulnerability leading to a recover conservation objective. However, our exposure levels are set without taking into account whether the gear type will physically make contact with the feature or not. An example of this might be pelagic fishing over subtidal sand. We use the advice from JNCC and Natural England with regard to fisheries impacts on Marine Conservation Zone habitat features (JNCC & Natural England 2011b) to determine those circumstances in which broad-scale habitats and FOCI habitats and species are not impacted by fishing pressure⁸². If

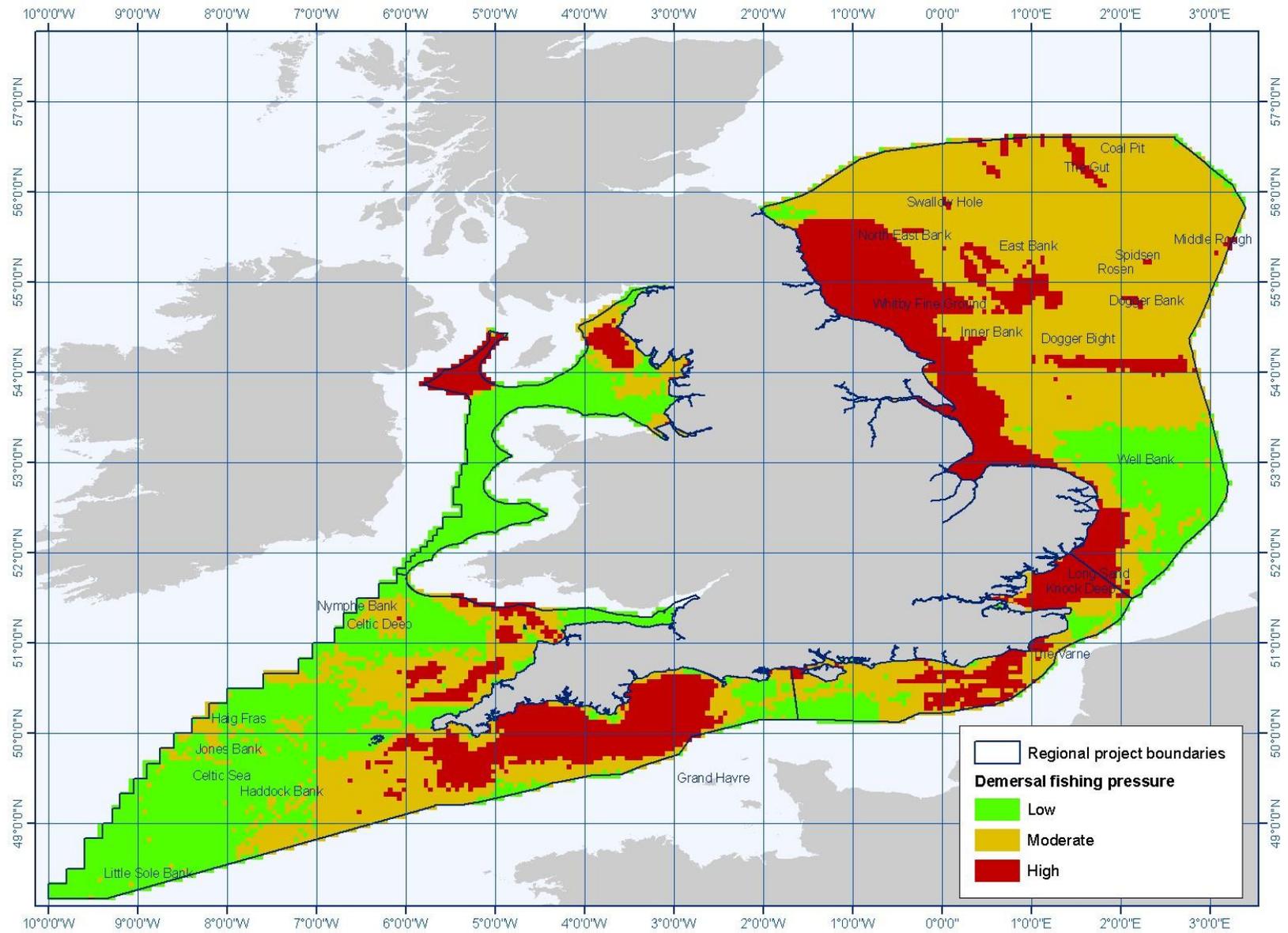
⁸² In this sense-check Natural England has made the assumption that all coarse sediment and subtidal sand habitats are considered in the ‘high’ energy’ category of the JNCC and Natural England MCZ fisheries advice document. This means that even if the fisheries standardisation produces a high exposure for these habitats, the sense-check reduces exposure to moderate or low. This will be an underestimate of exposure for the coarse sediment and sand habitats which are low energy and therefore the vulnerability assessment may underestimate risk to these features in some cases.

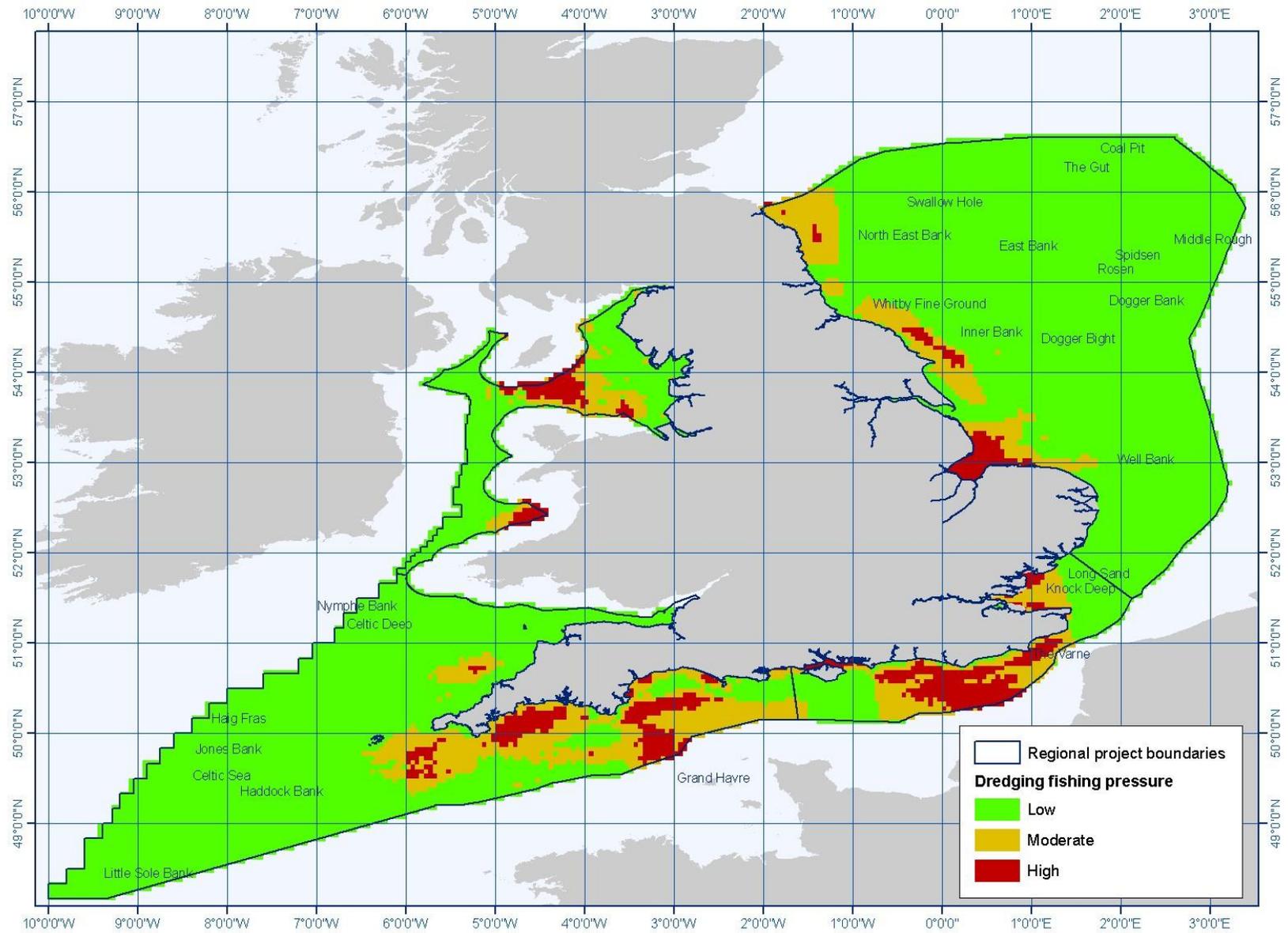
advice was given that unrestricted access of a given gear group would lead to a recover conservation objective being achieved then any conservation objectives resulting from the method in this manuscript would be re-set to a maintain conservation objective⁸³.

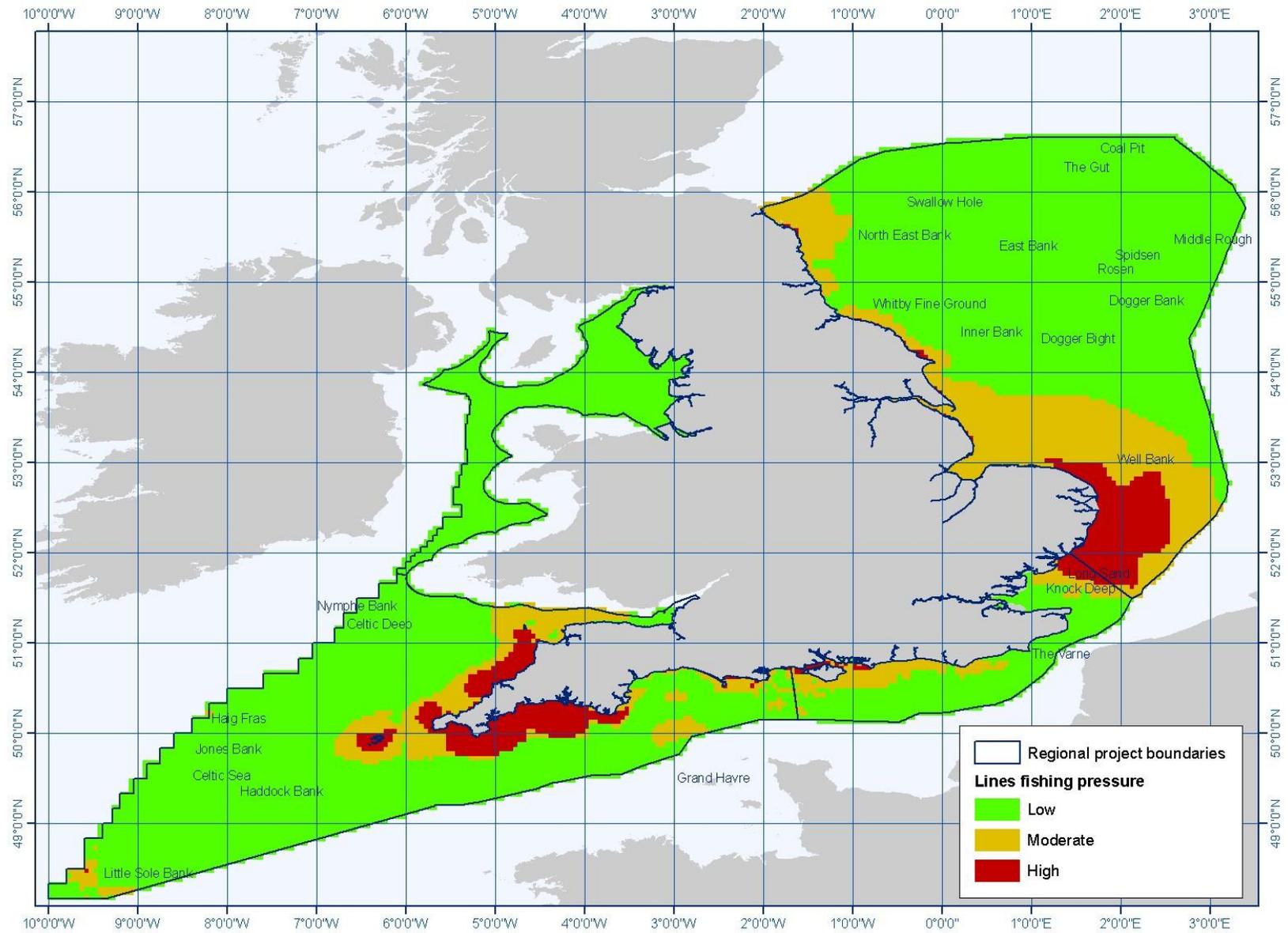
A6.1.46. The impacts advice on MCZ features did not cover species. The ENG (Natural England and the Joint Nature Conservation Committee 2010) details which habitats are likely to contain which species. To this end, we use the habitat as a proxy for the species conservation objectives. If a species was found in more than one habitat then the precautionary approach was taken with regard to setting the likely impacts of a given gear type.

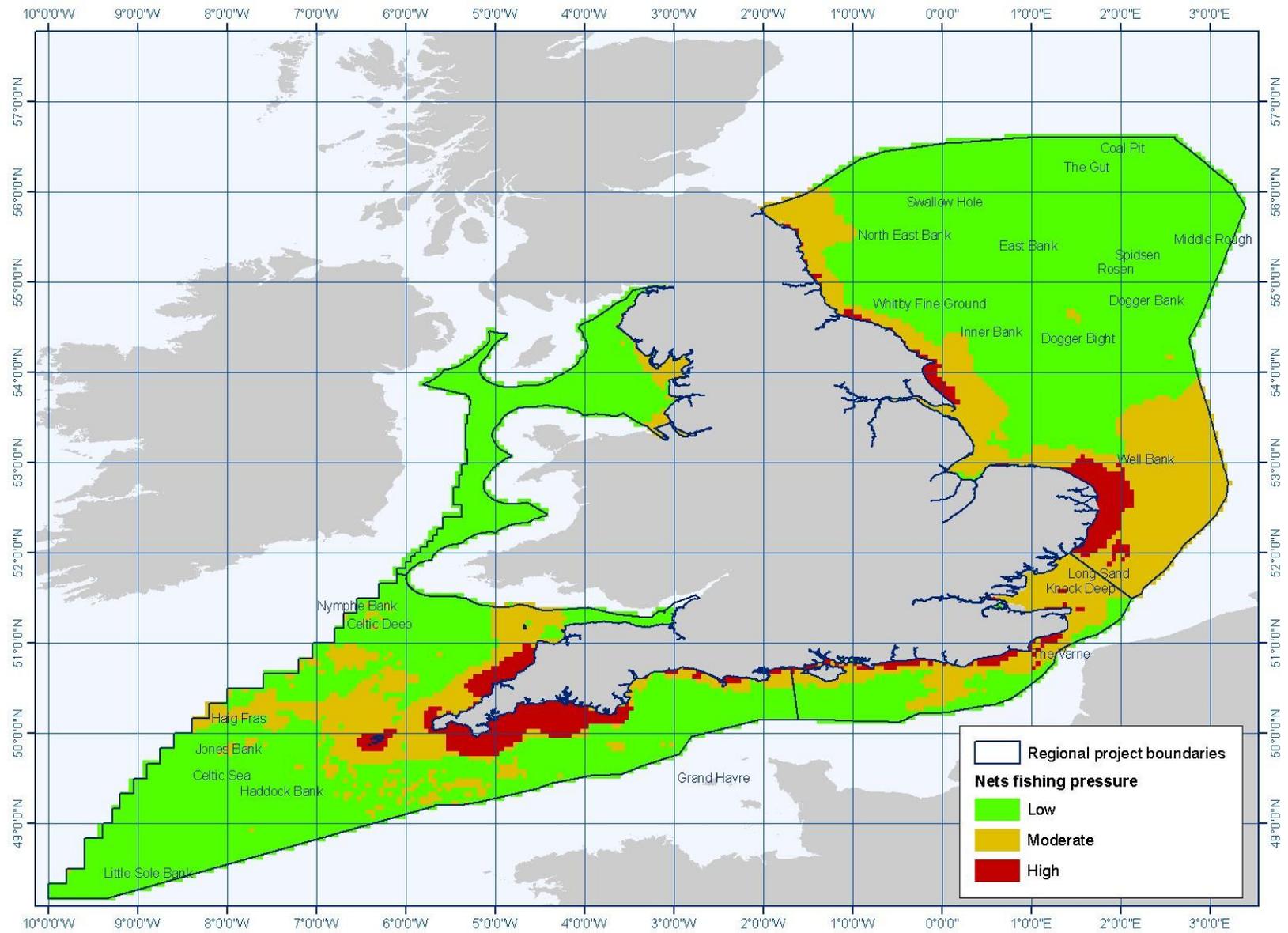
Figure 28 Exposure maps for each gear type

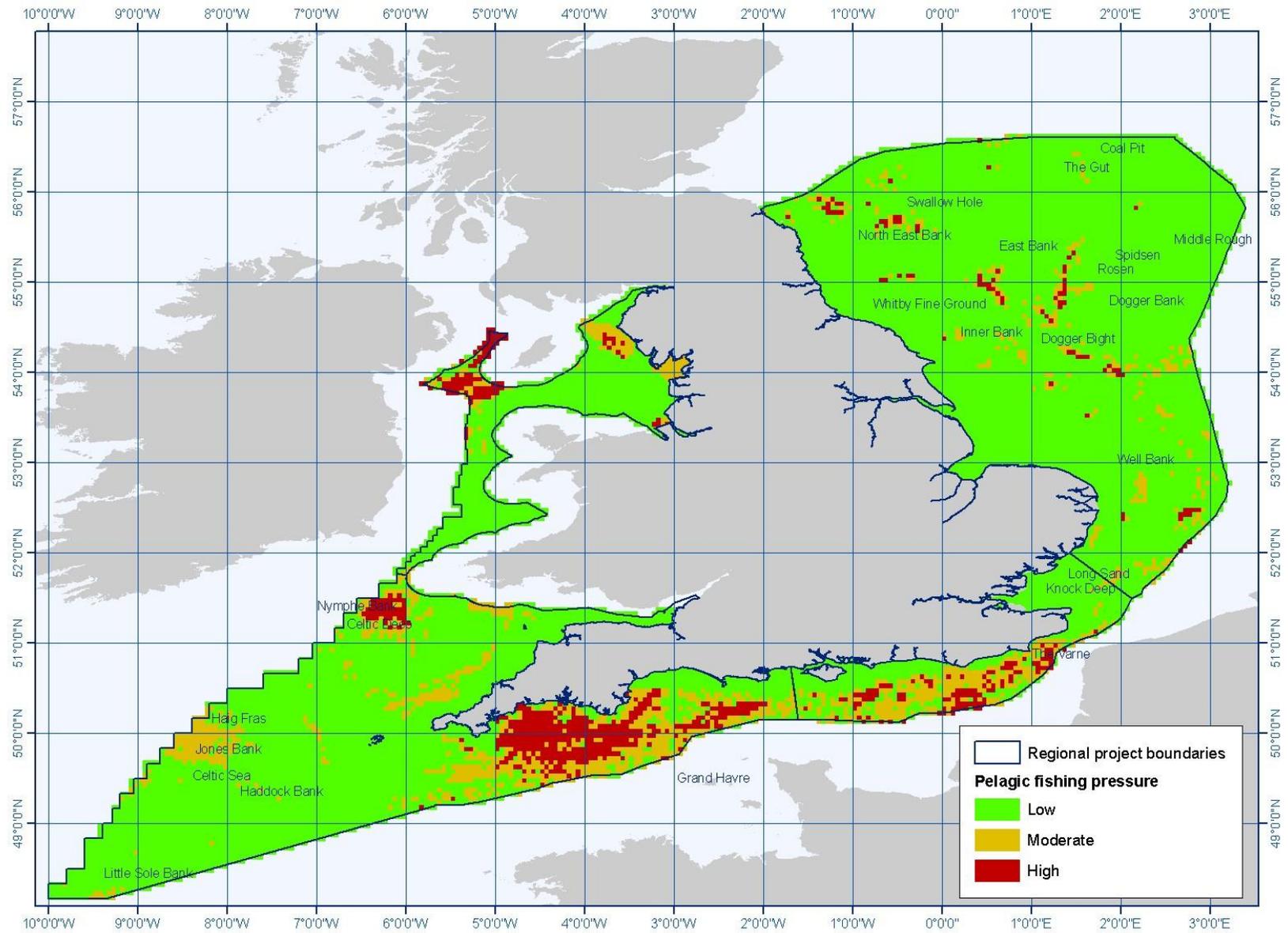
Note: Whilst the following maps show information on offshore waters they do not reflect a realistic representation of levels of fishing pressure for over 15m vessels operating within offshore waters, as the images also include estimates for inshore fishing effort. These maps have not been generated using the offshore methodology used for assessing exposure in the offshore. For information on offshore fisheries exposure and thresholds for UK and non-UK vessels see section A6.2.

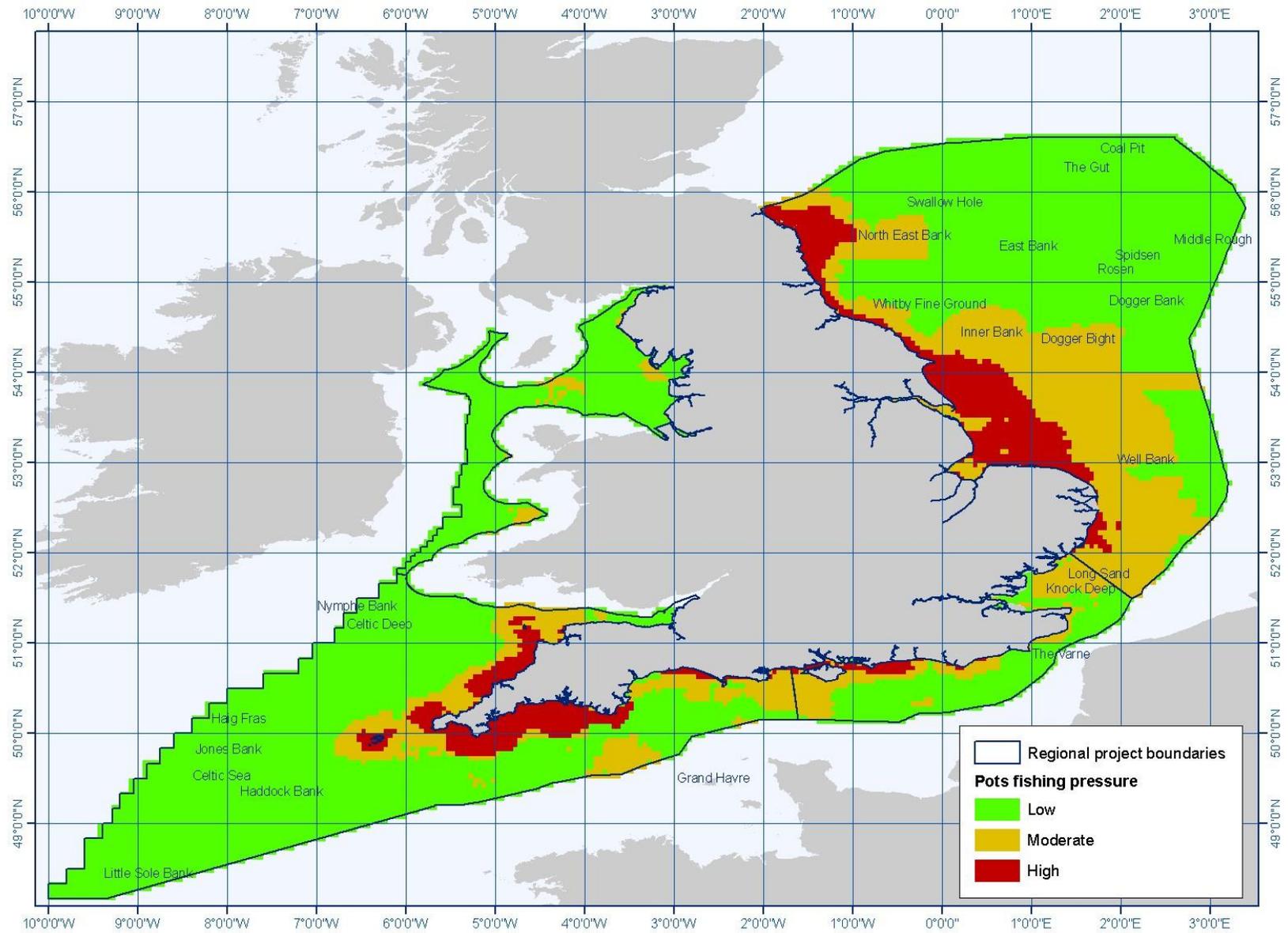












A6.2. Offshore fisheries methodologies

A6.2.1. Introduction

A6.2.1. In the absence of direct evidence of MCZ feature condition, a vulnerability assessment was used as a proxy, in order to set a conservation objective for the corresponding feature. A feature was considered vulnerable when it was exposed to a pressure (Robinson, Rogers and Frid 2008) to which it was sensitive (Hiscock, Jackson and Lear 1999). A general assumption was made that, when vulnerability was moderate to high for a particular feature, then that feature was unlikely to be in favourable condition and would warrant a recover objective. Sensitivity (Holt 1995) assessments were made through a process of expert judgement building on best evidence where available (MB0102 contract (Tillin, Hull and Tyler-Walters 2010)). Exposure was assessed by regional MCZ project staff and Regional Stakeholder Groups with JNCC and Natural England support using activity data provided through the MB0106 Defra contract (Cefas & ABPmer 2010) supported by local knowledge.

A6.2.2. Within the conceptual pressures framework, a single activity can generate a number of different pressures and multiple activities can contribute to the same single pressure. Quantifying how activities in combination contribute to a single pressure requires a degree of expert judgement and a consensus approach was adopted with the SNCBs in order to inform such decisions. In particular, consideration of fishing using different size vessels with a variety of gear types is a complex issue. Given this complexity and the desire to ensure that assessments were as consistent as feasible, an approach was developed and followed by JNCC in its support of the vulnerability assessments for features in offshore MCZs (features located beyond 12nm from the coast).

A6.2.3. It was necessary to assess the contribution of fishing to associated pressures offshore in a different way to inshore MCZs because of the differences in available data. Vessels fishing offshore tend to be ≥ 15 m in length and, as such, are required to carry vessel monitoring systems (VMS). These provide a vessel's position, speed and heading either hourly or every two hours. Such information can be analysed spatially and is provided to JNCC on an aggregated 0.05 degree raster grid. As vessels fish at characteristic speeds, VMS data can be processed to provide proxy patterns of 'active fishing'. Using a simple speed rule to identify active fishing periods from VMS is a coarse but effective means of estimating fishing effort (Mills 2007).

A6.2.4. The predominant pressure associated with fishing activity in terms of extent and intensity is physical abrasion, which relates overwhelmingly to mobile demersal fishing gear. The two other pressures that result from fishing activity are removal of target species and removal of non-target species. In both pressure definitions, species refer to organisms explicitly linked to site features. For example, both of the target species for offshore MCZs, sand eels and *Nephrops norvegicus*, are burrowing species and both are subject to a bottom trawl fishery. As non-target species are associated with trawling bycatch, it was assumed that both of these additional pressures offshore would be linked to the layer for physical abrasion for mobile demersal gear. For this reason, a single offshore pressure map was generated based on activity of mobile demersal gear. This approach is consistent with how JNCC has conducted vulnerability assessments for offshore EMS and with how pressures will be considered in future monitoring work for example for MSFD. Using physical abrasion from mobile demersal gears as a proxy does not account for removal of non-target species pressure associated with static gears.

A6.2.5. For the majority of features in offshore MCZs there was no direct evidence available at the time to inform feature condition.

A6.2.2. Approach for offshore sites

A6.2.6. The current approach was developed in order to ensure consistency when estimating exposure of a feature to pressures associated with fishing activity for offshore MCZs. By assessing exposure to a pressure, it enables a measure of vulnerability to be derived and a conservation objective to be subsequently determined.

A6.2.7. Effort data for vessels $\geq 15\text{m}$ were provided through a Defra marine biodiversity research programme (MB0106). Estimations of fishing activity were derived from VMS data for 2006–2009. The derived surfaces represent activity from all vessels (both UK and non-UK registered vessels) of at least 15m length. VMS data for UK vessels were linked to skipper logbook information in order to determine location and the fishing gear being employed. For non-UK registered vessels where logbook information was not available, information on fishing gear employed was obtained from 'primary gear' listed on the EU vessel register. Unprocessed VMS data were filtered using a simple speed rule of between 1 and 6 knots to indicate fishing activity for all gear types. All VMS data were aggregated at a cell resolution of 0.05 decimal degrees. These assumptions of active fishing speed and a homogeneous distribution of effort across each raster grid cell were consistent throughout JNCC's analysis.

A6.2.8. As gear classification for EU VMS data is only based on the 'primary gear' coding, caution was used when assessing exposure of features to pressures predominantly linked to EU vessel activity. Equally, the use of VMS to evaluate static gear effort is likely to be misleading as it does not link to gear 'soak time', nor does it provide any indication of the amount of gear deployed. As a result, conservation objectives were never set solely based on data on static gear.

A6.2.9. For vessels $< 15\text{m}$, information was provided through the joint questionnaire and mapping project Fishermap (des Clers, et al. 2008). However, data was delivered at a different scale to VMS, for a different time frame, had different underlying assumptions and there was no estimation of intensity. As such, the contribution of smaller ($< 15\text{m}$) vessels to pressures associated with fishing was more problematic (for more detailed description see Natural England fisheries standardisation method in **A6.1**), thus we were more circumspect about its use. As with static gears, exposure from $< 15\text{m}$ vessels was only considered in cases where the scale of exposure from vessels $\geq 15\text{m}$ resulted in a maintain objective. Over 92% of the total weight of fish landed in the UK in 2010 was from vessels $\geq 15\text{m}$ ⁸⁴ and although we are not aware of published estimates, it is likely that the majority of fishing vessels (and greater still of area swept) operating beyond 12nm around the UK are $\geq 15\text{m}$.

A6.2.10. Our understanding of the effects of fishing on benthic marine ecosystems is developing, thus the process of defining fishing exposure thresholds has been largely based on current knowledge and judgement. In relation to our pressures framework, the most meaningful way to express exposure is against the pressure benchmarks that were used to assess sensitivity. Here, exposure is defined as the action of a pressure on a receptor, with regard to extent, magnitude and duration of the pressure. A feature was considered exposed to a pressure from a specific activity when benchmark level, as defined in the MB0102 feature sensitivities report (Tillin, Hull and Tyler-Walters 2010), was met or exceeded. For physical abrasion, there are three different pressure benchmarks that are relevant to light or heavy demersal gears, depending on the depth of sediment penetration (that is, 1) surface abrasion, 2) penetration $\leq 25\text{mm}$ and 3) penetration $> 25\text{mm}$).

A6.2.11. No further guidance currently exists on how to categorise exposure relative to feature sensitivity or recoverability. Future work, refining MB0102, will develop our understanding of the relationship

84 MMO Fisheries statistics -<http://marinemanagement.org.uk/fisheries/statistics/documents/ukseafish/2010/final.pdf>

between pressures and habitat sensitivity and aims to formalise categories based on existing evidence and through new research and development. As exposure to fishing tends to be at the scale of fishing grounds and not discrete statistical grids, relating values of hours fished per annum in a generalised grid, as generated through MB0106, poses some difficulties. Most academic studies on fishing impacts are in relation to the number of times an area has been fished. Thus, we used information on duration of fishing (hrs.pa 2006–2009) combined with knowledge of gear width and average trawling speeds (Rose, et al. 2000, Dinmore, et al. 2003, Eastwood and Rodgers 2007, ICES 2010) to estimate area swept per annum. The tables present the method in two different ways: 1) the amount of the cell trawled pa in order to estimate frequency of impact (which assumes the effort is spread homogeneously in space) and 2) the number of hours required to trawl the cell once (which assumes the effort is spread homogeneously in time). Both sets of values are presented in order to recognise the different assumptions associated with each.

A6.2.12. During the course of our analysis we assumed that the scale of bottom exposure to beam trawl and dredge gears was the same for surface abrasion (benchmark – potential damage to seabed surface features), shallow abrasion (benchmark – potential damage to seabed surface and penetration $\leq 25\text{mm}$) and structural abrasion (benchmark – potential damage to seabed surface and penetration $>25\text{mm}$). The footprint for otter trawl gear was different for surface abrasion compared to the other two abrasion categories as discussed below.

A6.2.13. A value of 24m for beam trawl is based on a vessel fishing two 12m beams with associated beam shoe and tickler chain/chain mat contact (Dinmore, et al. 2003). Fewer than 40% of scallop vessels in the UK are $\geq 15\text{m}$, although they account for 78% of scallops landed by weight (2009 figures). These vessels tend to operate with greater numbers of dredges than the $<15\text{m}$ fleet, although most still operate with 10 or fewer dredges per side⁸⁵. Thus, a value of 17m was assumed for dredge gear assuming 20 x 0.85m dredges. For demersal otter trawling, estimation of the degree of exposure varied for both surface and shallow abrasion due to variation in the degree of penetration of gear components. Trawl doors, weights, bridles/sweeps and ground gear of a standard otter trawl rigging may all have varying contact with the bottom and therefore varied contribution to abrasion pressure. Although the sweeps/bridles generally have the largest contact area with the bottom, the degree of impact from these components is very poorly understood (Valdemarsen, Jorgensen and Engas 2007). Therefore, in estimating exposure of seabed to surface abrasion, we have only assumed contact with the trawl doors and the ground gear. There is no standardised spread for demersal ground gears and wing spread may vary due to net size, speed of towing and angle of doors. To estimate exposure of the bottom to surface abrasion pressure we opted to use a value of 20m. This was based on the standardised (between the wings) net dimensions for ICES international bottom trawl surveys (ICES 2010). Equally, we assumed that each door would have a contact area of 1m based on a 2m door with a door angle of approximately 30 degrees. Thus, for surface abrasion a total value of 22m was estimated for demersal otter trawls. For shallow abrasion pressure, we only considered the trawl doors as achieving the benchmark pressure, thus a value of 2m was assumed an appropriate value.

A6.2.14. Thresholds were based on area covered per year based on the above calculations for example, twice a year (High exposure), once a year (Moderate exposure) or less than once a year (Low exposure). When assessing thresholds for cumulative effects of different gears, all gear classes were converted to a common scale based on relative area swept per unit time (that is, swept area for 1 hour beam trawl = 2.4 hr dredge = 1.4 hr otter trawl (subsurface) = 15 hr otter trawl (surface)). **Figure 29** illustrates the exposure thresholds for the offshore MCZ area for mobile demersal gear

85 <http://www.defra.gov.uk/consult/files/110826-scallops-condoc.pdf>

including otter, dredge and beam gears based on over 15m vessel VMS data from 2006 to 2009 inclusive.

A6.2.15. The exposure scores were used in conjunction with the feature sensitivity score to determine vulnerability and the feature's conservation objective. In general, the exposure to abrasion score for the feature was based on the VMS grid within the site with the highest exposure value. However, in instances where the majority of a feature was subject to 'low' exposure with small numbers of grids with 'moderate/high' exposure, personal judgement was used to determine whether the overall score for the feature should be downgraded. All such instances were documented during each stage of the process.

Table 220 Swept area calculations based on assumptions regarding average gear width, trawling speed and approximated VMS grid size

Estimates provided for 1) area fished and coverage of VMS grid cell per annum (standardised for 100 hours fishing) and 2) the number of hours required for complete coverage of a standardised VMS grid. The latter was used to define low, moderate and high exposure thresholds

Gear type	Gear contact (m)	Vessel speed (knots)	Area swept (km ² /hr)	Area of VMS grid (km ²)	Area fished pa (km ²)*	Number of times grid cell covered*	Number of hours required to cover grid cell	
							once a year	twice a year
Beam trawl	24	5	0.22	9.95	22.22	2.23	45	90
Dredge	17	3	0.09	9.95	9.45	0.95	105	210
Otter trawl (subsurface)	2	4	0.01	9.95	1.48	0.15	672	1344
Otter trawl (surface)	22	4	0.16	9.95	16.30	1.64	61	122

*values based on a standardised value of 100 hrs fishing

A6.3. JNCC approach for joint rMCZs

A6.3.1. JNCC is leading work on providing advice to Government for several joint rMCZs which straddle the 12nm limit. Natural England and JNCC undertook a joint quality assessment of the draft conservation objectives for all joint sites presented at the draft final recommendation in June 2011. For the inshore and joint sites, it was recognised that the assessment of pressures associated with fishing activities was relatively inconsistent. This was a remnant of the qualitative nature of Fisherman data and the difficulty in imposing a consistent interpretation at the regional project level. As a result, further assessment of COs for joint MCZs was postponed until such time as this could be addressed. Natural England developed the fisheries standardisation method to address this and it is described in the first part of this Annex. In January/February 2012, Natural England and JNCC reviewed the vulnerability assessments provided by the regional MCZ projects in their final recommendations. As part of this, Natural England reviewed the vulnerability assessments in light of the output from the fisheries standardisation method for all inshore sites and JNCC reviewed the vulnerability assessments for the offshore sites. An agreement was reached regarding responsibility for provision of advice for joint sites. For the description of the methodology⁸⁶ used for joint sites, refer to [Section 5.2.6](#).

A6.2.3. Recognised issues

A6.3.2. By using a generalised estimate of speed and scale of gear contact, the JNCC *approach* fits all $\geq 15\text{m}$ mobile demersal vessels into the same few categories irrespective of vessel power. This assumes that all vessels $\geq 15\text{m}$ trawl at an average speed and that gear widths do not vary within gear types, for example all beam trawlers $\geq 15\text{m}$ trawl at 5 knots using *two* 12m beams. In the future, JNCC will be using data provided on speed, frequency and information on actual gear widths from fishers in order to improve these estimates. JNCC also aims to incorporate vessel power into these calculations in the future in order to increase confidence in the estimates of swept area.

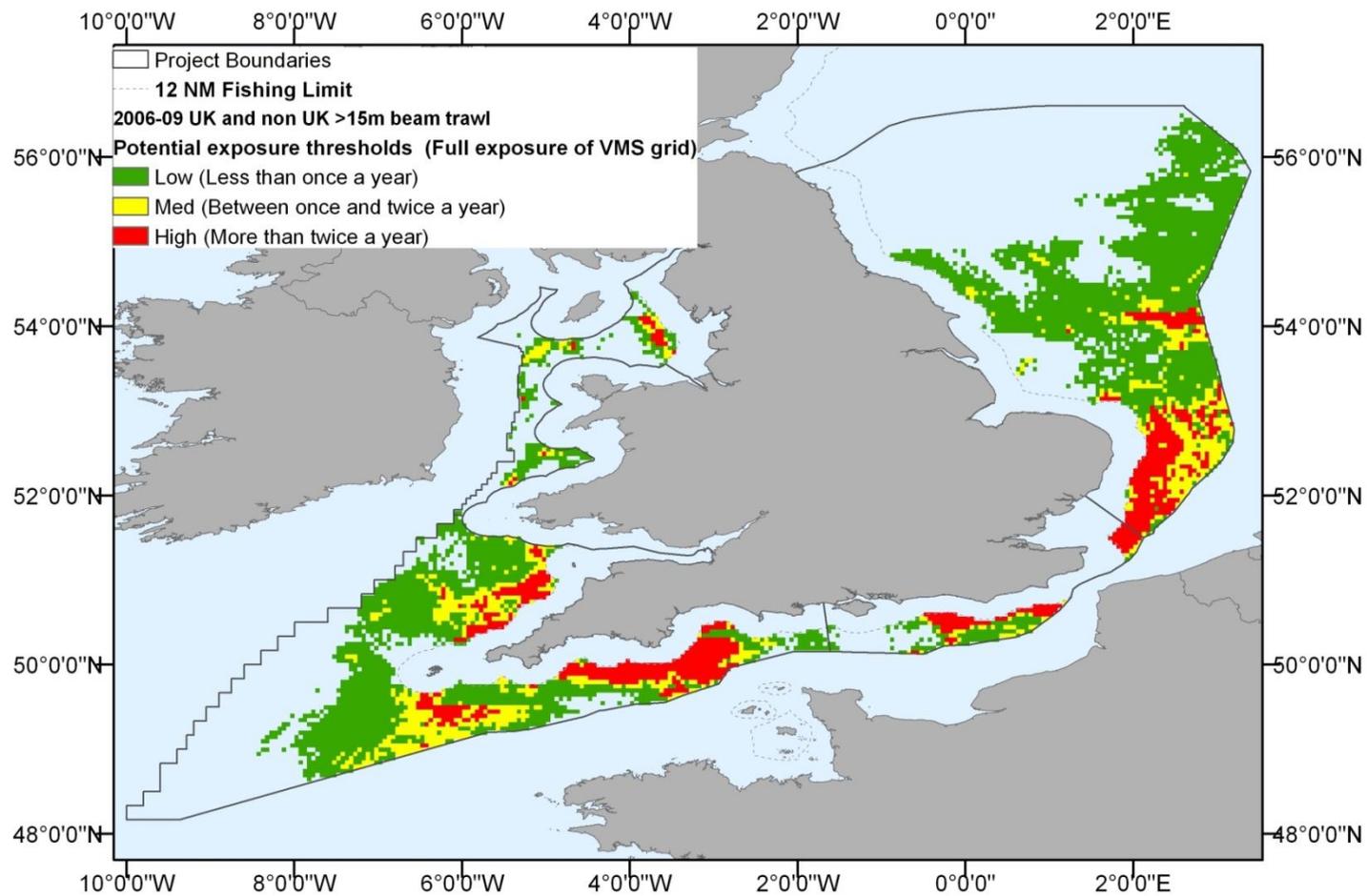
A6.3.3. Although VMS grids are assumed to be a standard size (9.95 km^2), in reality there will be small differences in scale due to the fact that they are 0.05° raster cells and thus will decrease in absolute size towards northerly latitudes.

A6.3.4. To achieve more biologically meaningful vulnerability assessments, JNCC will aim to link pressure exposure frequency to recovery rates of features. This work is likely to be progressed as part of the UK Marine Biodiversity Monitoring Research and Development Programme and is likely to require manipulative experiments to determine sustainable levels of anthropogenic pressure.

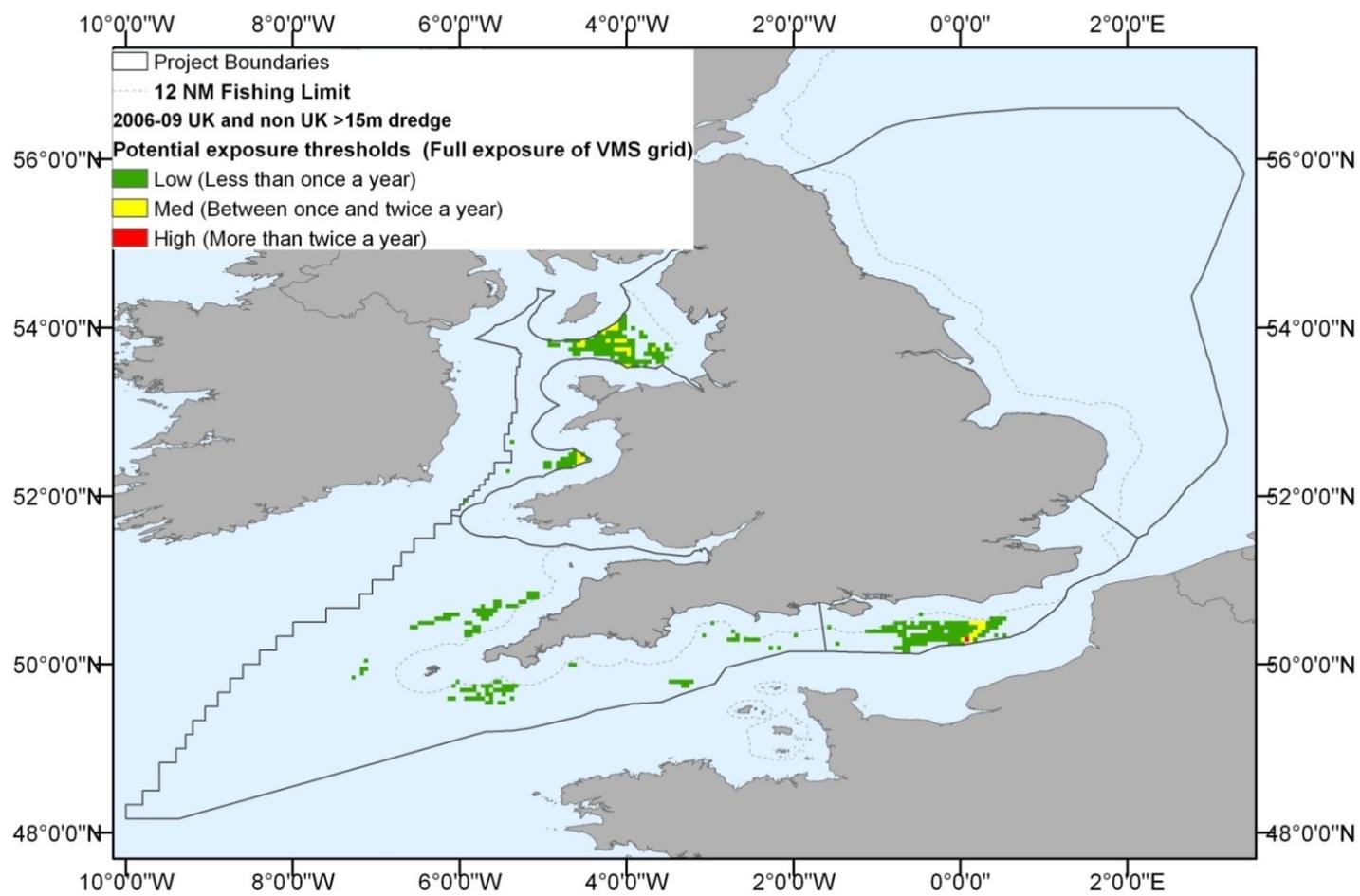
A6.3.5. An assumption was made that fishing occurred homogeneously across a cell, that is, 100% swept area assumes that the whole area was trawled once, although in reality half of the cell may have been trawled twice and the other half not at all, or a quarter of the cell trawled four times and the remainder not at all. In using this methodology, it is assumed that these exposures are equivalent at the scale of the raster cell.

⁸⁶ As linkage of gear class to VMS data for non-UK vessels could only be approximated based on primary gear entries in the EU vessel register, it was not possible to perform a refined analysis of exposure to pressures from specific gear types. Thus, in estimating exposure to fishing pressures, VMS data from both UK and non-UK vessels were amalgamated to produce exposure values for broadscale gear groupings (e.g. beam trawl, otter trawl and dredge). This assumes that broad gear groupings reduce the chance of misalignment between vessel register primary gear and actual gear used during each fishing event. Where systematic errors were identified during the course of international fisheries engagement work, these errors were rectified in the analysis (e.g. Republic of Ireland “nets” was re-classified as “otter trawl” following discussions with fisheries representatives). We concluded that the risk of underestimating exposure by not including non-UK VMS data was greater than the risk of over/underestimating exposure due to misclassification of gear. Nevertheless, it is acknowledged that this introduces a level of uncertainty and caution should be exercised when interpreting the output.

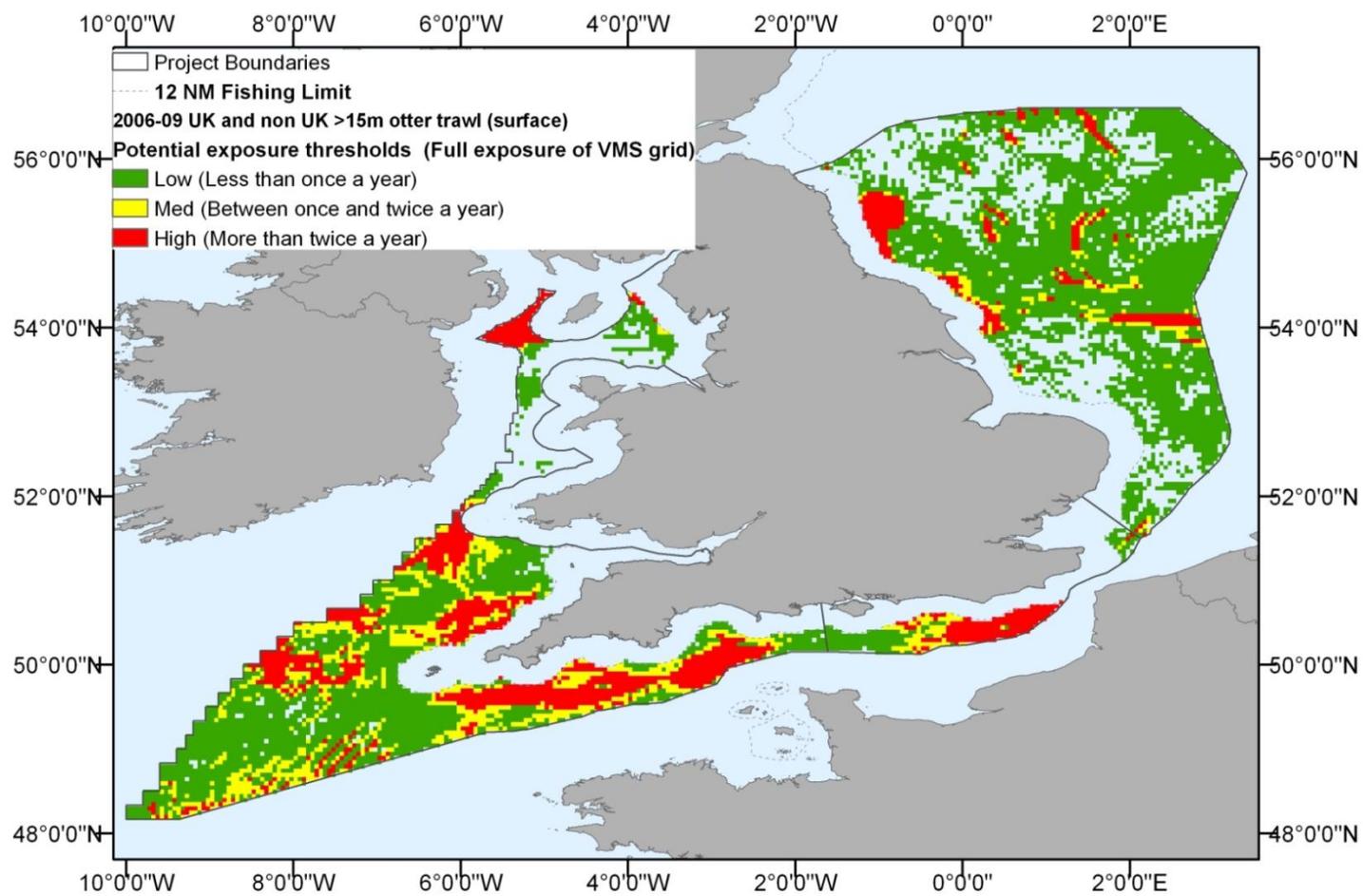
Figure 29 Offshore fisheries exposure maps and thresholds for UK and non-UK over 15 metre mobile demersal vessels
 Beam trawl 2006-2009



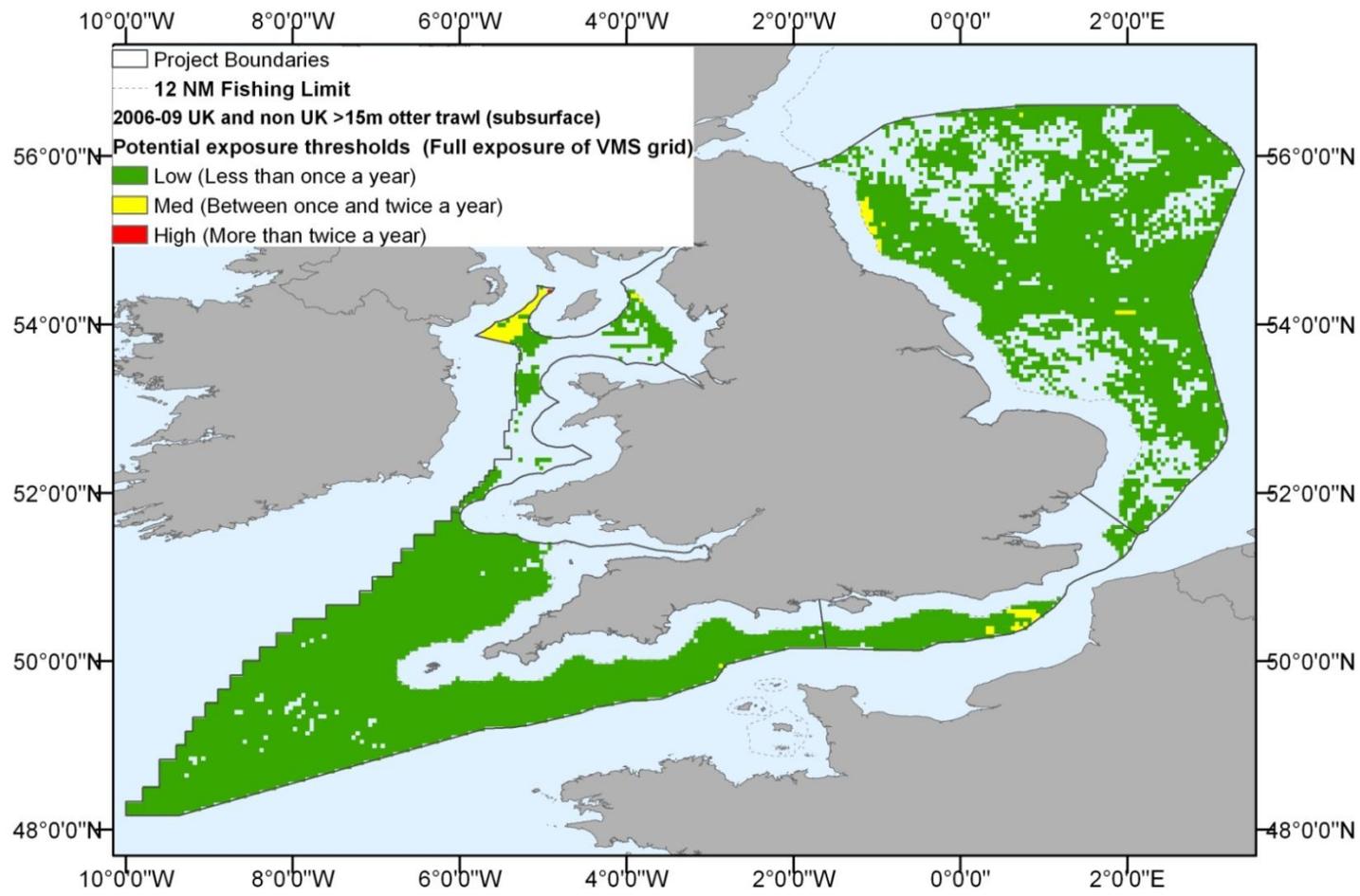
Dredge 2006-2009



Otter trawl (surface) 2006-2009



Otter trawl (subsurface) 2006-2009



Annex 7 – Assessment of scientific confidence of feature condition

A7.1. These tables (Table 1 and Table 2) provide the detailed results that inform the advice in [Sections 4.2](#) and [5.2](#). **Table 221** describes the inshore and joint recommended Marine Conservation Zones and **Table 222** describes the offshore and joint Marine Conservation Zones.

Table 221 Natural England review of condition assessments in inshore and joint recommended Marine Conservation Zones

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Stour and Orwell	BS 02	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Stour and Orwell	BS 02	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Stour and Orwell	BS 02	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Stour and Orwell	BS 02	Blue Mussel Beds	HOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Stour and Orwell	BS 02	Native oyster <i>Ostrea edulis</i> beds	HOCI_14	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Stour and Orwell	BS 02	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Stour and Orwell	BS 02	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Stour and Orwell	BS 02	Sheltered muddy gravels	HOCI_19	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Stour and Orwell	BS 02	Subtidal sand gravels	HOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Stour and Orwell	BS 02	Estuarine rocky habitats	HOCI_5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Stour and Orwell	BS 02	Honeycomb worm <i>Sabellaria alveolata</i> reefs	HOCI_8	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Blackwater and Crouch	BS 03	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Blackwater and Crouch	BS 03	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Blackwater and Crouch	BS 03	Clacton Cliffs and Foreshore	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Blackwater and Crouch	BS 03	Native oyster <i>Ostrea edulis</i> beds	HOCI_14	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	due to RSG information
BS	Blackwater and Crouch	BS 03	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	due to RSG information
BS	Blackwater and Crouch	BS 03	Lagoon sea slug <i>Tenellia adspersa</i>	SOCI_28	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Blackwater and Crouch	BS 03	European eel <i>Anguilla anguilla</i>	SOCI_31	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Thames Estuary	BS 05	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thames Estuary	BS 05	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thames Estuary	BS 05	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thames Estuary	BS 05	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thames Estuary	BS 05	Subtidal mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thames Estuary	BS 05	Sheltered muddy gravels	HOCI_19	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	POSS DISAGREE	Pending check
BS	Thames Estuary	BS 05	Tentacled lagoon worm <i>Alkmaria romijni</i>	SOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thames Estuary	BS 05	European eel <i>Anguilla anguilla</i>	SOCI_31	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Thames Estuary	BS 05	Smelt <i>Osmerus eperlanus</i>	SOCI_32	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Medway Estuary	BS 06	Low energy intertidal rock	A1.3	Maintain	Yes	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Medway Estuary	BS 06	Intertidal sand and muddy sand	A2.2	Maintain	Yes	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Medway Estuary	BS 06	Intertidal mixed sediments	A2.4	Maintain	Yes	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Medway Estuary	BS 06	Subtidal coarse sediment	A5.1	Maintain	Yes	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Medway Estuary	BS 06	Subtidal sand	A5.2	Maintain	Yes	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Medway Estuary	BS 06	Subtidal mud	A5.3	Maintain	Yes	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Medway Estuary	BS 06	Peat clay exposures	HOCI_15	Maintain	Yes	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Medway Estuary	BS 06	Sheltered muddy gravels	HOCI_19	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	POSS DISAGRE E	Pending check
BS	Medway Estuary	BS 06	Estuarine rocky habitats	HOCI_5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Medway Estuary	BS 06	Tentacled lagoon worm <i>Alkmaria romijni</i>	SOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Blue mussel beds	HOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Recover	Yes		Low confidence	Manual assessment - low confidence but check with regional team - for overlap between <i>S. spinulosa</i> feature and hydraulic dredging and demersal trawling	Agree	Agree
BS	Thanet Coast	BS 07	Subtidal chalk	HOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Subtidal sand gravels	HOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Thanet Coast	BS 07	Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	SOCI_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Goodwin Sands	BS 08	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Goodwin Sands	BS 08	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Goodwin Sands	BS 08	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Goodwin Sands	BS 08	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Goodwin Sands	BS 08	Eastern English Channel Flood Features	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Goodwin Sands	BS 08	Blue mussel beds	HOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Goodwin Sands	BS 08	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Offshore Foreland	BS 09	High energy infralittoral rock	A3.1	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Offshore Foreland	BS 09	High energy circalittoral rock	A4.1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Offshore Foreland	BS 09	Moderate energy circalittoral rock	A4.2	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Offshore Foreland	BS 09	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Offshore Foreland	BS 09	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Offshore Foreland	BS 09	Eastern English Channel outburst flood features	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	The Swale Estuary	BS 10	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	The Swale Estuary	BS 10	Low energy infralittoral rock	A3.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	The Swale Estuary	BS 10	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	The Swale Estuary	BS 10	Subtidal mud	A5.3	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Confidence in feature extent is low
BS	The Swale Estuary	BS 10	Subtidal mixed sediments	A5.4	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in feature sensitivity
BS	The Swale Estuary	BS 10	Blue Mussel Beds	HOCI_1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	The Swale Estuary	BS 10	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	The Swale Estuary	BS 10	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	The Swale Estuary	BS 10	Sheltered muddy gravels	HOCI_19	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in exposure to pressures
BS	The Swale Estuary	BS 10	Subtidal sand gravels	HOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	The Swale Estuary	BS 10	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	The Swale Estuary	BS 10	European eel <i>Anguilla anguilla</i>	SOCI_31	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Dover to Deal	BS 11.1	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Deal	BS 11.1	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Deal	BS 11.1	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Deal	BS 11.1	High energy infralittoral rock	A3.1	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Deal	BS 11.1	Moderate energy infralittoral rock	A3.2	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Deal	BS 11.1	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Dover to Deal	BS 11.1	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Deal	BS 11.1	Blue Mussel Beds	HOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Deal	BS 11.1	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Deal	BS 11.1	Littoral chalk communities	HOCI_11	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Dover to Deal	BS 11.1	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Deal	BS 11.1	Subtidal chalk	HOCI_20	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Manual assessment - only one possible high vulnerability but sensitivity is moderate with low confidence (and SNCB advice is that CO should be maintain)	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Folkestone	BS 11.2	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Folkestone	BS 11.2	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Dover to Folkestone	BS 11.2	High energy infralittoral rock	A3.1	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Manual assessment - based on sensitivity assessment	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Folkestone	BS 11.2	Moderate energy infralittoral rock	A3.2	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Folkestone	BS 11.2	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Folkestone	BS 11.2	Folkestone Warren	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Dover to Folkestone	BS 11.2	Blue Mussel Beds	HOCI_1	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Folkestone	BS 11.2	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Folkestone	BS 11.2	Littoral chalk communities	HOCI_11	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Manual assessment - all pressure sensitivities assessed as low confidence	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Folkestone	BS 11.2	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Dover to Folkestone	BS 11.2	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Folkestone	BS 11.2	Subtidal chalk	HOCI_20	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Dover to Folkestone	BS 11.2	Subtidal sand gravels	HOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Dover to Folkestone	BS 11.2	Short snouted seahorse <i>Hippocampus hippocampus</i>	SOCI_16	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Dover to Folkestone	BS 11.2	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Folkstone Pomerania	BS 11.4	Moderate energy circalittoral rock	A4.2	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Folkstone Pomerania	BS 11.4	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Folkstone Pomerania	BS 11.4	Subtidal sand	A5.2	Recover	No	Advise change to 'maintain' CO - see section 4.2	Moderate confidence	Manual assessment - full feature extent exposed to high level of dredging (national fisheries exposure assessment)	Disagree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Folkstone Pomerania	BS 11.4	Blue Mussel Beds	HOCI_1	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
BS	Folkstone Pomerania	BS 11.4	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Recover	Yes		Low confidence	Manual assessment	Agree	Agree
BS	Folkstone Pomerania	BS 11.4	Subtidal sand gravels	HOCI_21	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Folkstone Pomerania	BS 11.4	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Folkstone Pomerania	BS 11.4	Honeycomb worm <i>Sabellaria alveolata</i> reefs	HOCI_8	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Beachy Head East	BS 13.1	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head East	BS 13.1	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head East	BS 13.1	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head East	BS 13.1	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head East	BS 13.1	Subtidal sand	A5.2	Recover (although December amendment report states that the feature is not proposed for protection)	n/a	feature not proposed	Low confidence	Uncertainty over feature presence/extent	Agree	Agree
BS	Beachy Head East	BS 13.1	Subtidal mixed sediments	A5.4	Recover (although December amendment report states that the feature is not proposed for protection)	n/a	feature not proposed	Low confidence	Uncertainty over feature presence/extent	Agree	Agree
BS	Beachy Head East	BS 13.1	Blue Mussel Beds	HOCI_1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Beachy Head East	BS 13.1	Littoral chalk communities	HOCI_11	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head East	BS 13.1	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head East	BS 13.1	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Beachy Head East	BS 13.1	Subtidal chalk	HOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Beachy Head East	BS 13.1	Moderate Energy Infralittoral Rock (A3.92, A3.94, A4.92) A3.92 ME infralittoral rock and thin sands	non_ENG_20	Recover	Yes		Low confidence	vulnerability of REC habitat to pressures not certain	Agree	Agree
BS	Beachy Head East	BS 13.1	Low Energy Infralittoral Rock and thin sandy sediments (A3.A2 and A3.A4)	non_ENG_21	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Beachy Head East	BS 13.1	Moderate energy circalittoral rock (A4.94) (A4.94 ME circalittoral rock and thin mixed sediments)	non_ENG_22	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Beachy Head East	BS 13.1	Low energy circalittoral rock (A4.A4) (A4.A4 LE circalittoral rock and thin mixed sediments)	non_ENG_23	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Beachy Head East	BS 13.1	Short snouted seahorse <i>Hippocampus hippocampus</i>	SOCI_16	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head East	BS 13.1	Native oyster <i>Ostrea edulis</i>	SOCI_22	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Beachy Head East	BS 13.1	European eel <i>Anguilla anguilla</i>	SOCI_31	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Beachy Head West	BS 13.2	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Beachy Head West	BS 13.2	A5.24 infralittoral muddy sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	A5.33 infralittoral sandy mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Subtidal mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Blue Mussel Beds	HOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Littoral chalk communities	HOCI_11	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Beachy Head West	BS 13.2	Subtidal chalk	HOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Moderate energy Infralittoral Rock (A3.94) (A3.94 Moderate energy infralittoral rock and thin mixed sediments)	non_ENG_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Low energy Infralittoral Rock (A3.A2 and A3.A4) (A3.A2 Low energy infralittoral rock and thin sandy sediment)	non_ENG_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Beachy Head West	BS 13.2	Low energy Infralittoral Rock (A3.A2 and A3.A4) (A3.A4 Low energy infralittoral rock and thin mixed sediments)	non_ENG_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Long snouted seahorse <i>Hippocampus guttulatus</i>	SOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Short snouted seahorse <i>Hippocampus hippocampus</i>	SOCI_16	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Beachy Head West	BS 13.2	European eel <i>Anguilla anguilla</i>	SOCI_31	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Kingmere	BS 16	Subtidal chalk	HOCI_20	Recover	Yes		Low confidence	Manual assessment - high vulnerability pressures are moderate sensitivity	Agree	Agree
BS	Kingmere	BS 16	Moderate energy Infralittoral Rock (A3.94) (A3.94 Moderate energy infralittoral rock and thin mixed sediments)	non_ENG_20	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Kingmere	BS 16	Black bream <i>Spondyliosoma cantharus</i>	non-ENG_1	Recover	Yes		Low confidence	Vulnerability assessment not undertaken for this feature - management options discussed in Balanced Seas final recommendations	Agree	Agree
BS	Kingmere	BS 16	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Norris to Ryde	BS 19	Subtidal mud	A5.3	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in sensitivity
BS	Norris to Ryde	BS 19	Seagrass beds	HOCI_17	Recover	Yes		Moderate confidence	Manual assessment - based on fishing exposure	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Norris to Ryde	BS 19	Tentacled lagoon worm <i>Alkmaria romijni</i>	SOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	The Needles	BS 20	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	The Needles	BS 20	Seagrass beds	HOCI_17	Recover	Yes		Low confidence	Manual assessment - based on fishing (netting) exposure (moderate exposure)	Agree	Agree
BS	The Needles	BS 20	Stalked jellyfish <i>Lucernariopsis campanulata</i>	SOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	The Needles	BS 20	Peacock's tail <i>Padina pavonica</i>	SOCI_23	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Bembridge	BS 22	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Bembridge	BS 22	Subtidal mud	A5.3	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Bembridge	BS 22	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Bembridge	BS 22	Maerl beds	HOCI_12	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Bembridge	BS 22	Mud habitats in deep water	HOCI_13	Recover	Yes		Low confidence	Unknown or low exposure to pressures to which the feature is highly sensitive	Agree	Agree
BS	Bembridge	BS 22	Native oyster <i>Ostrea edulis</i> beds	HOCI_14	Recover	Yes		Low confidence	Manual assessment - not enough information on the fishery (method, impact intensity or location)	Agree	Agree
BS	Bembridge	BS 22	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Recover	Yes		Low confidence	Manual assessment - not enough information on anchoring	Agree	Agree
BS	Bembridge	BS 22	Seagrass beds	HOCI_17	Recover	Yes		Low confidence	Manual assessment - based on shellfish harvesting (if dredging, seems to be moderate exposure).	Agree	Agree
BS	Bembridge	BS 22	Sea pens and burrowing megafauna	HOCI_18	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
BS	Bembridge	BS 22	Tentacled lagoon worm <i>Alkmaria romijni</i>	SOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Bembridge	BS 22	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Bembridge	BS 22	Long snouted seahorse <i>Hippocampus guttulatus</i>	SOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Bembridge	BS 22	Short snouted seahorse <i>Hippocampus hippocampus</i>	SOCI_16	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Bembridge	BS 22	Starlet sea anemone <i>Nematostella vectensis</i>	SOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Bembridge	BS 22	Native oyster <i>Ostrea edulis</i>	SOCI_22	Recover	Yes		Low confidence	Manual assessment - not enough information on the fishery (method, impact intensity or location)	Agree	Agree
BS	Bembridge	BS 22	Peacock's tail <i>Padina pavonica</i>	SOCI_23	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Bembridge	BS 22	Sea snail <i>Paludinella littorina</i>	SOCI_25	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Bembridge	BS 22	Lagoon sand shrimp <i>Gammarus insensibilis</i>	SOCI_9	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Moderate energy infralittoral rock	A3.2	Recover	Yes		Low confidence	Manual assessment - based on sensitivity assessment	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Bouldnor Cliff geological feature*	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Yarmouth to Cowes	BS 23	Intertidal underboulder communities	HOCI_10	Recover	Yes		Low confidence	Manual assessment - all pressure sensitivities assessed as low confidence	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Native oyster <i>Ostrea edulis</i> beds	HOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Peat clay exposures	HOCI_15	Recover	Yes		Moderate confidence	Manual assessment	Agree	agree
BS	Yarmouth to Cowes	BS 23	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Recover	Yes		Moderate confidence	Manual assessment - based on fishing exposure	Agree	agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Yarmouth to Cowes	BS 23	Seagrass beds	HOCI_17	Recover	Yes		Low confidence	Manual assessment - recover based on recreational activities causing shallow abrasion impacts - don't have much info on this	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Estuarine rocky habitats	HOCI_5	Maintain	Advise a 'maintain' CO		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Yarmouth to Cowes	BS 23	Lagoon sand shrimp <i>Gammarus insensibilis</i>	SOCI_9	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Fareham Creek	BS 24.2	Native oyster <i>Ostrea edulis</i> beds	HOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Fareham Creek	BS 24.2	Sheltered muddy gravels	HOCI_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Fareham Creek	BS 24.2	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Pagham Harbour	BS 25.1	Seagrass beds	HOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Pagham Harbour	BS 25.1	European eel <i>Anguilla anguilla</i>	SOCI_31	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Pagham Harbour	BS 25.1	Defolin's lagoon snail <i>Caecum armoricum</i>	SOCI_6	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Pagham Harbour	BS 25.1	Lagoon sand shrimp <i>Gammarus insensibilis</i>	SOCI_9	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Selsey Bill and the Hounds	BS 25.2	High energy infralittoral rock	A3.1	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Confidence in feature extent is low
BS	Selsey Bill and the Hounds	BS 25.2	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Selsey Bill and the Hounds	BS 25.2	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Selsey Bill and the Hounds	BS 25.2	Bracklesham Bay	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
BS	Selsey Bill and the Hounds	BS 25.2	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Selsey Bill and the Hounds	BS 25.2	Moderate energy infralittoral rock (A3.92 and A3.94)	non_ENG_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Selsey Bill and the Hounds	BS 25.2	Low energy infralittoral rock (A3.A2 and A3.A4)	non_ENG_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
BS	Hythe Bay	BS 26	Subtidal mud	A5.3	Recover	Yes		Low confidence	Manual assessment - based on sensitivity assessment	Agree	Agree
BS	Hythe Bay	BS 26	Mud habitats in deep water	HOCI_13	Recover	Yes		Moderate confidence	Manual assessment - removal target species and shallow abrasion (demersal fishing)	Agree	Agree
BS	Hythe Bay	BS 26	Sea pens and burrowing megafauna	HOCI_18	Recover	Yes		Low confidence	Manual assessment - low confidence in pressure sensitivity associated with high exposure activities in the site	Agree	Agree
BS	Utopia	BS 28	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	low or unknown information on exposure to pressures to which the feature is sensitive	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Kentish Knock East	BS 30	Subtidal coarse sediment	A5.1	Recover	Pending	NB: SNCB advice still pending. See section 4.2	Low confidence	Due to low/no confidence in feature extent	Agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)
BS	Kentish Knock East	BS 30	Subtidal sand	A5.2	Recover	Pending	NB: SNCB advice still pending. See section 4.2	Low confidence	Due to low/no confidence in feature extent	Agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Kentish Knock East	BS 30	Subtidal mixed sediments	A5.4	Recover	Pending	NB: SNCB advice still pending. See section 4.2	Low confidence	Due to low/no confidence in feature extent	Agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)
FS	Poole Rocks	FS 14	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Poole Rocks	FS 14	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Poole Rocks	FS 14	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Poole Rocks	FS 14	Couch's goby <i>Gobius couchi</i>	SOCI_12	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in sensitivity
FS	Poole Rocks	FS 14	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in exposure to pressures
FS	Studland Bay	FS 15	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Studland Bay	FS 15	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Studland Bay	FS 15	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Studland Bay	FS 15	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Studland Bay	FS 15	Seagrass beds	HOCI_17	Recover	Yes		Moderate confidence	Manual assessment - UKHO data showed unrestricted anchoring in seagrass extent	Agree	Agree
FS	Studland Bay	FS 15	Short snouted seahorse <i>Hippocampus hippocampus</i>	SOCI_16	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Studland Bay	FS 15	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
FS	Studland Bay	FS 15	Undulate ray <i>Raja undulata</i>	SOCI_33	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
FS	South Dorset	FS 16	High energy circalittoral rock	A4.1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	South Dorset	FS 16	Moderate energy circalittoral rock	A4.2	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	South Dorset	FS 16	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	South Dorset	FS 16	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	South Dorset	FS 16	Subtidal chalk	HOCI_20	Recover	Yes		Low confidence	all high sensitivities are low confidence	Agree	Agree
FS	Broad Bench to Kimmeridge Bay	FS 17	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Broad Bench to Kimmeridge Bay	FS 17	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Broad Bench to Kimmeridge Bay	FS 17	Peacock's tail <i>Padina pavonica</i>	SOCI_23	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Broad Bench to Kimmeridge Bay	FS 17	Sea snail <i>Paludinella littorina</i>	SOCI_25	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	South of Portland	FS 18	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	South of Portland	FS 18	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	South of Portland	FS 18	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	South of Portland	FS 18	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	South of Portland	FS 18	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	South of Portland	FS 18	Portland Deep	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Chesil Beach and Stennis Ledges	FS 19	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Chesil Beach and Stennis Ledges	FS 19	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Chesil Beach and Stennis Ledges	FS 19	High energy infralittoral rock	A3.1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Chesil Beach and Stennis Ledges	FS 19	Subtidal coarse sediment	A5.1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Chesil Beach and Stennis Ledges	FS 19	Subtidal sand	A5.2	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Chesil Beach and Stennis Ledges	FS 19	Native oyster <i>Ostrea edulis</i>	SOCI_22	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Chesil Beach and Stennis Ledges	FS 19	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Recover	Yes		Moderate confidence	Manual assessment - high sensitivity to benthic trawling pressures, and moderate to high confidence in activity occurring, plus evidence of activity occurring from RSG	Agree	Agree
FS	Axe Estuary	FS 20	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Axe Estuary	FS 20	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Axe Estuary	FS 20	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Axe Estuary	FS 20	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Axe Estuary	FS 20	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Axe Estuary	FS 20	European eel <i>Anguilla anguilla</i>	SOCI_31	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally
FS	Otter Estuary	FS 21	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Otter Estuary	FS 21	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Otter Estuary	FS 21	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Otter Estuary	FS 21	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Otter Estuary	FS 21	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Otter Estuary	FS 21	European eel <i>Anguilla Anguilla</i>	SOCI_31	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally
FS	Torbay	FS 22	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Subtidal mud	A5.3	Recover	Yes		Low confidence	Manual assessment - all sensitivity assessments are Low or moderate confidence for this feature	Agree	Agree
FS	Torbay	FS 22	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Seagrass beds	HOCI_17	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Torbay	FS 22	Honeycomb work <i>Sabellaria alveolata</i> reefs	HOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Black throated diver (<i>Gavia arctica</i>)	non-ENG_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Great northern diver (<i>Gavia immer</i>)	non-ENG_3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Great northern diver (<i>Gavia immer</i>)	non-ENG_3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Harbour porpoise (<i>Phocoena phocoena</i>)	non-ENG_4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Torbay	FS 22	Horned grebe (<i>Podiceps auritus</i>)	non-ENG_5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Great crested grebe (<i>Podiceps cristatus</i>)	non-ENG_6	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Red-necked grebe (<i>Podiceps grisegena</i>)	non-ENG_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Black-necked grebe (<i>Podiceps nigricollis</i>)	non-ENG_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Guillemot (<i>Uria aalge</i>)	non-ENG_9	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Long snouted seahorse <i>Hippocampus guttulatus</i>	SOCI_15	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Confidence in feature extent is low
FS	Torbay	FS 22	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Peacock's tail <i>Padina pavonica</i>	SOCI_23	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Torbay	FS 22	Sea snail <i>Paludinella littorina</i>	SOCI_25	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Dart Estuary	FS 23	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Dart Estuary	FS 23	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Dart Estuary	FS 23	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Dart Estuary	FS 23	Subtidal mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Dart Estuary	FS 23	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Dart Estuary	FS 23	Estuarine rocky habitats	HOCI_5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Dart Estuary	FS 23	Tentacled lagoon worm <i>Alkmaria romijni</i>	SOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Dart Estuary	FS 23	European eel <i>Anguilla Anguilla</i>	SOCI_31	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally
FS	Skerries Bank and surrounds	FS 24	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Moderate energy circalittoral rock	A4.2	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in sensitivity
FS	Skerries Bank and surrounds	FS 24	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Skerries Bank and surrounds	FS 24	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Subtidal mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Short snouted seahorse <i>Hippocampus hippocampus</i>	SOCI_16	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Moderate confidence	Manual assessment - High potting pressure	Agree	Agree
FS	Skerries Bank and surrounds	FS 24	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Devon Avon Estuary	FS 25	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Devon Avon Estuary	FS 25	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Devon Avon Estuary	FS 25	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Devon Avon Estuary	FS 25	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Devon Avon Estuary	FS 25	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Devon Avon Estuary	FS 25	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Devon Avon Estuary	FS 25	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Devon Avon Estuary	FS 25	Subtidal mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Devon Avon Estuary	FS 25	Tentacled lagoon worm <i>Alkmaria romijni</i>	SOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Devon Avon Estuary	FS 25	European eel <i>Anguilla Anguilla</i>	SOCI_31	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally
FS	Erme Estuary	FS 26	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Low energy infralittoral rock	A3.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Subtidal mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Sheltered muddy gravels	HOCI_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Erme Estuary	FS 26	Estuarine rocky habitats	HOCI_5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Erme Estuary	FS 26	European eel <i>Anguilla anguilla</i>	SOCI_31	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally
FS	Tamar estuary sites	FS 27	Intertidal coarse sediment	A2.1	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in sensitivity
FS	Tamar estuary sites	FS 27	Intertidal biogenic reefs	A2.7	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in sensitivity
FS	Tamar estuary sites	FS 27	Blue Mussel Beds	HOCI_1	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Confidence in feature extent is low
FS	Tamar estuary sites	FS 27	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Confidence in feature extent is low
FS	Tamar estuary sites	FS 27	European eel <i>Anguilla Anguilla</i>	SOCI_31	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally
FS	Tamar estuary sites	FS 27	Smelt <i>Osmerus eperlanus</i>	SOCI_32	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally
FS	Whitsand and Looe Bay	FS 28	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Whitsand and Looe Bay	FS 28	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Seagrass beds	HOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Giant goby <i>Gobius cobitis</i>	SOCI_11	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Long snouted seahorse <i>Hippocampus guttulatus</i>	SOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Whitsand and Looe Bay	FS 28	Sea fan anemone <i>Amphianthus dohrmii</i>	SOCI_2	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in exposure to those pressures to which the feature is highly sensitive at the local scale
FS	Whitsand and Looe Bay	FS 28	Ocean quahog <i>Arctica islandica</i>	SOCI_3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Whitsand and Looe Bay	FS 28	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in exposure to those pressures to which the feature is highly sensitive at the local scale
FS	Upper Fowey and Pont Pill	FS 29	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Upper Fowey and Pont Pill	FS 29	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Upper Fowey and Pont Pill	FS 29	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Upper Fowey and Pont Pill	FS 29	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Upper Fowey and Pont Pill	FS 29	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Upper Fowey and Pont Pill	FS 29	Sheltered muddy gravels	HOCI_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Upper Fowey and Pont Pill	FS 29	Estuarine rocky habitats	HOCI_5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Upper Fowey and Pont Pill	FS 29	European eel <i>Anguilla Anguilla</i>	SOCI_31	no CO - still to be assessed	unknown		Low confidence	no condition assessment undertaken	Agree	Agree
FS	South of Falmouth	FS 31	Moderate energy circalittoral rock	A4.2	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	South of Falmouth	FS 31	Subtidal coarse sediment	A5.1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	The Manacles	FS 32	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Subtidal macrophyte-dominated sediment	A5.5	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Low confidence in sensitivity
FS	The Manacles	FS 32	Maerl beds	HOCI_12	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Confidence in feature extent is low

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	The Manacles	FS 32	Basking shark <i>Cetorhinus maximus</i>	non_ENG_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Harbour porpoise <i>Phocoena phocoena</i>	non_ENG_4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Sunset cup coral <i>Leptopsammia pruvoti</i>	SOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Sea fan anemone <i>Amphianthus dohrmii</i>	SOCI_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	The Manacles	FS 32	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Moderate confidence	Manual assessment - fishing pressure (pots and nets) high	Agree	Agree
FS	The Manacles	FS 32	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Mounts Bay	FS 33	Seagrass beds	HOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Giant goby <i>Gobius cobitis</i>	SOCI_11	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	SOCI_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Stalked jellyfish <i>Lucernariopsis campanulata</i>	SOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Mounts Bay	FS 33	Ocean quahog <i>Arctica islandica</i>	SOCI_3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Land's End	FS 34	Basking shark <i>Cetorhinus maximus</i>	non-ENG_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Bottlenose dolphin <i>Tursiops truncatus</i>	non-ENG_11	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Balearic shearwater <i>Puffinus mauretanicus</i>	non-ENG_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Harbour porpoise <i>Phocoena phocoena</i>	non-ENG_4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Sea snail <i>Paludinella littorina</i>	SOCI_25	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Land's End	FS 34	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	Subtidal macrophyte-dominated sediment	A5.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	Seagrass beds	HOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	Tide swept channels	HOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean non-disturbance area	FS 35a	A stalked jellyfish (2 species) to be confirmed by LG	SOCI_14 or SOCI_19 or SOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Tide swept channels	HOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Sea fan anemone <i>Amphianthus dohrmii</i>	SOCI_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bishop to Crim	FS 35c	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bishop to Crim	FS 35c	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bishop to Crim	FS 35c	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bishop to Crim	FS 35c	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bishop to Crim	FS 35c	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bishop to Crim	FS 35c	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bishop to Crim	FS 35c	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Bishop to Crim	FS 35c	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bristows to the Stones	FS 35d	High energy infralittoral rock	A3.1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Bristows to the Stones	FS 35d	Moderate energy infralittoral rock	A3.2	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Bristows to the Stones	FS 35d	High energy circalittoral rock	A4.1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Bristows to the Stones	FS 35d	Moderate energy circalittoral rock	A4.2	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Bristows to the Stones	FS 35d	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bristows to the Stones	FS 35d	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Bristows to the Stones	FS 35d	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Bristows to the Stones	FS 35d	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Bristows to the Stones	FS 35d	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Tide swept channels	HOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Giant goby <i>Gobius cobitis</i>	SOCI_11	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Sea fan anemone <i>Amphianthus dohrnii</i>	SOCI_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Sea snail <i>Paludinella littorina</i>	SOCI_25	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Gilstone to Gorregan	FS 35e	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Low energy infralittoral rock	A3.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Low energy circalittoral rock	A4.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Sunset cup coral <i>Leptopsammia pruvoti</i>	SOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Sea fan anemone <i>Amphianthus dohmii</i>	SOCI_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Moderate confidence	Manual assessment - high pressure from potting and netting around Isles of Scilly	Agree	Agree
FS	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Higher Town	FS 35g	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Intertidal mud	A2.3	Maintain	No	Natural England believe that this feature doesn't exist in the rMCZ - see section 4.1	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	n/a	See comments
FS	Isles of Scilly: Higher Town	FS 35g	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Subtidal macrophyte-dominated sediment	A5.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Seagrass beds	HOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Higher Town	FS 35g	Tide swept channels	HOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Higher Town	FS 35g	Stalked jellyfish <i>Lucernariopsis campanulata</i>	SOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Subtidal macrophyte-dominated sediment	A5.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Seagrass beds	HOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Tide swept channels	HOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Sunset cup coral <i>Leptopsammia pruvoti</i>	SOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Sea fan anemone <i>Amphianthus dohmii</i>	SOCI_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Intertidal mud	A2.3	Maintain	No	Natural England believe that this feature doesn't exist in the rMCZ - see section 4.1	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	n/a	See comments
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Seagrass beds	HOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Tide swept channels	HOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly:	FS 35i	Sea fan anemone <i>Amphianthus dohrmii</i>	SOCI_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Stalked jellyfish <i>Lucernariopsis campanulata</i>	SOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Men a Vaur to White Island	FS 35i	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Intertidal mud	A2.3	Maintain	No	Natural England believe that this feature doesn't exist in the rMCZ - see section 4.1	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	n/a	See comments
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Giant goby <i>Gobius cobitis</i>	SOCI_11	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Sunset cup coral <i>Leptopsammia pruvoti</i>	SOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Sea fan anemone <i>Amphianthus dohrmii</i>	SOCI_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Stalked jellyfish <i>Lucernariopsis campanulata</i>	SOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Moderate confidence	Manual assessment - high pressure from potting and netting around Isles of Scilly	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Sea snail <i>Paludinella littorina</i>	SOCI_25	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Ocean quahog <i>Arctica islandica</i>	SOCI_3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Sunset cup coral <i>Leptopsammia pruvoti</i>	SOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Sea fan anemone <i>Amphianthus dohrnii</i>	SOCI_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Moderate confidence	Manual assessment - high pressure from potting and netting around Isles of Scilly	Agree	Agree
FS	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35l	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35l	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35l	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35l	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 351	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 351	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 351	Tide swept channels	HOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 351	Giant goby <i>Gobius cobitis</i>	SOCI_11	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 351	Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	SOCI_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 351	Sea fan anemone <i>Amphianthus dohmii</i>	SOCI_2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 351	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 351	Burgundy maerl paint weed <i>Cruoria cruoriaeformis</i>	SOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35l	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Intertidal mud	A2.3	Maintain	No	Natural England believe that this feature doesn't exist in the rMCZ - see section 4.1	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	n/a	See comments
FS	Isles of Scilly: Tean	FS 35m	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Subtidal macrophyte-dominated sediment	A5.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Seagrass beds	HOCI_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Isles of Scilly: Tean	FS 35m	Tide swept channels	HOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Isles of Scilly: Tean	FS 35m	A stalked jellyfish (2 species) to be confirmed by LG	SOCI_14 or SOCI_19 or SOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Cape Bank	FS 36	Moderate energy circalittoral rock	A4.2	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Cape Bank	FS 36	Subtidal coarse sediment	A5.1	Recover	Yes		Low confidence	all high sensitivities are low confidence	Agree	Agree
FS	Cape Bank	FS 36	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Newquay and the Gannel	FS 37	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Newquay and the Gannel	FS 37	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Subtidal mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Giant goby <i>Gobius cobitis</i>	SOCI_11	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Native oyster <i>Ostrea edulis</i>	SOCI_22	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	Sea snail <i>Paludinella littorina</i>	SOCI_25	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Newquay and the Gannel	FS 37	European eel <i>Anguilla Anguilla</i>	SOCI_31	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally
FS	Newquay and the Gannel	FS 37	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Padstow Bay and surrounds	FS 38	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Bottlenose dolphin <i>Tursiops truncatus</i>	non_ENG_11	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Kittiwake <i>Rissa tridactyla</i>	non_ENG_12	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Razorbill <i>Alca torda</i>	non_ENG_13	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Puffin <i>Fratercula arctica</i>	non_ENG_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Fulmar <i>Fulmarus glacialis</i>	non_ENG_17	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Guillemot <i>Uria aalge</i>	non_ENG_9	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Stalked jellyfish <i>Haliclystus auricula</i>	SOCI_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	SOCI_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Ocean quahog <i>Arctica islandica</i>	SOCI_3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Padstow Bay and surrounds	FS 38	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Camel Estuary	FS 39	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Camel Estuary	FS 39	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Camel Estuary	FS 39	Intertidal mud	A2.3	no CO - still to be assessed	Advise a 'maintain' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)
FS	Camel Estuary	FS 39	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Camel Estuary	FS 39	Estuarine rocky habitats	HOCI_5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Camel Estuary	FS 39	European eel <i>Anguilla Anguilla</i>	SOCI_31	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally
FS	Hartland Point to Tintagel	FS 40	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Hartland Point to Tintagel	FS 40	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Fragile sponge and anthozoan communities on subtidal rocky habitat	HOCI_7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Honeycomb worm <i>Sabellaria alveolata</i> reefs	HOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Peacock's tail <i>Padina pavonica</i>	SOCI_23	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Hartland Point to Tintagel	FS 40	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	no CO - still to be assessed	Advise a 'maintain' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Lundy	FS 41	Mud habitats in deep water	HOCI_13	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Lundy	FS 41	Razorbill <i>Alca torda</i>	non_ENG_13	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Lundy	FS 41	Puffin <i>Fratercula arctica</i>	non_ENG_14	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Lundy	FS 41	Manx shearwater <i>Puffinus puffinus</i>	non_ENG_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Lundy	FS 41	Guillemot <i>Uria aalge</i>	non_ENG_9	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Lundy	FS 41	Spiny lobster <i>Palinurus elephas</i>	SOCI_24	Recover	Yes		Moderate confidence	Manual assessment - high pressure from potting and netting around Lundy	Agree	Agree
FS	Taw Torridge Estuaries	FS 42	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Taw Torridge Estuaries	FS 42	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Taw Torridge Estuaries	FS 42	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Taw Torridge Estuaries	FS 42	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Taw Torridge Estuaries	FS 42	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Taw Torridge Estuaries	FS 42	Subtidal mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Taw Torridge Estuaries	FS 42	European eel <i>Anguilla Anguilla</i>	SOCI_31	no CO - still to be assessed	Advise a 'recover' CO	See section 4.2	Low confidence	no condition assessment undertaken	Agree	Condition assessment is based on general status trends for the feature regionally

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Bideford to Foreland Point	FS 43	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	High energy circalittoral rock	A4.1	Recover	No	Advise change to 'maintain' CO - see section 4.2	Low confidence	Due to low/no confidence in feature extent	agree	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore (see protocol F, inset box, page 13)
FS	Bideford to Foreland Point	FS 43	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
FS	Bideford to Foreland Point	FS 43	Honeycomb worm <i>Sabellaria alveolata</i> reefs	HOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Razorbill <i>Alca torda</i>	non_ENG_13	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Grey seal <i>Halichoers grypus</i>	non_ENG_16	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Harbour porpoise <i>Phocoena phocoena</i>	non_ENG_4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Guillemot <i>Uria aalge</i>	non_ENG_9	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Sea snail <i>Paludinella littorina</i>	SOCI_25	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Bideford to Foreland Point	FS 43	Pink sea fan <i>Eunicella verrucosa</i>	SOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Morte Platform	FS 44	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Morte Platform	FS 44	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	Morte Platform	FS 44	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	North of Lundy (Atlantic Array area)	FS 45	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	North of Lundy (Atlantic Array area)	FS 45	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	North of Lundy (Atlantic Array area)	FS 45	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
FS	North of Lundy (Atlantic Array area)	FS 45	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
ISCZ	West of Walney	ISCZ 02	Subtidal sand	A5.2	Recover (but only in proposed co-location zone)	Yes		Low confidence	Exposure to pressures to which feature is highly sensitive are not certain	Agree	Agree
ISCZ	West of Walney	ISCZ 02	Subtidal mud	A5.3	Recover	Yes		Low confidence	all high sensitivities are low confidence	Agree	Agree
ISCZ	West of Walney	ISCZ 02	Mud habitats in deep water	HOCI_13	Recover	Yes		Moderate confidence	Pressure from dredging and benthic trawling appears high over the feature in the site (from national fisheries exposure assessment work) - seems to be supported by SNCB sense check	Agree	Agree
ISCZ	West of Walney	ISCZ 02	Sea pens and burrowing megafauna	HOCI_18	Recover	Yes		Low confidence	all high sensitivities are low confidence	Agree	Agree
ISCZ	West of Walney (extension)	ISCZ 02a&b	Subtidal sand	A5.2	Recover	Yes		Low confidence	Exposure to pressures to which feature is highly sensitive are not certain	Agree	Agree
ISCZ	West of Walney (extension)	ISCZ 02a&b	Subtidal mud	A5.3	Recover	Yes		Low confidence	all high sensitivities are low confidence	Agree	Agree
ISCZ	West of Walney (extension)	ISCZ 02a&b	Mud habitats in deep water	HOCI_13	Recover	Yes		Low confidence	all high sensitivities are low confidence	Agree	Agree
ISCZ	West of Walney (extension)	ISCZ 02a&b	Seapens and burrowing megafauna	HOCI_18	Recover	Yes		Moderate confidence	Pressure from dredging and benthic trawling appears high over the feature in the site (from national fisheries exposure assessment work) - seems to be supported by SNCB sense check	Agree	Agree
ISCZ	Flyde Offshore	ISCZ 08	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Flyde Offshore	ISCZ 08	Subtidal sands and gravels	HOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Allonby Bay	ISCZ 10	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Allonby Bay	ISCZ 10	Intertidal biogenic reefs	A2.7	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Allonby Bay	ISCZ 10	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Allonby Bay	ISCZ 10	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Allonby Bay	ISCZ 10	Blue Mussel Beds	HOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
ISCZ	Allonby Bay	ISCZ 10	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Allonby Bay	ISCZ 10	Subtidal sands and gravels	HOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Allonby Bay	ISCZ 10	Honeycomb worm <i>Sabellaria alveolata</i> reefs	HOCI_8	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Cumbria Coast	ISCZ 11	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Cumbria Coast	ISCZ 11	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Cumbria Coast	ISCZ 11	Intertidal biogenic reefs	A2.7	Recover	Yes		Low confidence	Exposure to pressures to which feature is highly sensitive are not certain	Agree	Agree
ISCZ	Cumbria Coast	ISCZ 11	High energy infralittoral rock	A3.1	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
ISCZ	Cumbria Coast	ISCZ 11	Blue Mussel Beds	HOCI_1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Cumbria Coast	ISCZ 11	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Cumbria Coast	ISCZ 11	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
ISCZ	Cumbria Coast	ISCZ 11	Honeycomb worm <i>Sabellaria alveolata</i> reefs	HOCI_8	Recover	Yes		Low confidence	Manual assessment - No available GI to check exposure confidence	Agree	Agree
ISCZ	Cumbria Coast	ISCZ 11	Black guillemot <i>Cephus grylle</i>	non_ENG_18	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Confidence in feature extent is low
ISCZ	Sefton Coast	ISCZ 13	Peat clay exposures	HOCI_15	Recover	Yes		Low confidence	Due to low/no confidence in feature extent	Agree	Agree
ISCZ	Hilbre Island Group	ISCZ 14	Blue Mussel Beds	HOCI_1	Recover	Yes		Low confidence	Manual assessment - High VA pressure sensitivity assessments are moderate and generally have low confidence	Agree	Agree
ISCZ	Hilbre Island Group	ISCZ 14	Peat clay exposures	HOCI_15	Recover	Yes		Low confidence	Manual assessment - the high VA pressures are only moderate sensitivity	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
ISCZ	Solway Firth	ISCZ 15	European eel <i>Anguilla anguilla</i>	SOCI_31	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
ISCZ	Solway Firth	ISCZ 15	Smelt <i>Osmerus eperlanus</i>	SOCI_32	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
ISCZ	Wyre-Lune Estuary	ISCZ 16	European eel <i>Anguilla Anguilla</i>	SOCI_31	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
ISCZ	Wyre-Lune Estuary	ISCZ 16	Smelt <i>Osmerus eperlanus</i>	SOCI_32	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
ISCZ	Ribble Estuary	ISCZ 17	European eel <i>Anguilla Anguilla</i>	SOCI_31	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
ISCZ	Ribble Estuary	ISCZ 17	Smelt <i>Osmerus eperlanus</i>	SOCI_32	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
NG	Orford Inshore	NG 01b	Subtidal mixed sediments	A5.4	Recover	Yes		Low confidence	all high sensitivities are low confidence	Agree	Agree
NG	Alde Ore Estuary	NG 01c	Orfordness (Subtidal)	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
NG	Alde Ore Estuary	NG 01c	Sheltered muddy gravels	HOCI_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Alde Ore Estuary	NG 01c	Estuarine rocky habitats	HOCI_5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Alde Ore Estuary	NG 01c	Smelt <i>Osmerus eperlanus</i>	SOCI_32	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Cromer Shoal Chalk Beds	NG 02	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Cromer Shoal Chalk Beds	NG 02	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Cromer Shoal Chalk Beds	NG 02	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Cromer Shoal Chalk Beds	NG 02	North Norfolk coast (Subtidal)	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
NG	Cromer Shoal Chalk Beds	NG 02	Subtidal chalk	HOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
NG	Lincs Belt	NG 05	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Lincs Belt	NG 05	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Lincs Belt	NG 05	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Lincs Belt	NG 05	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Lincs Belt	NG 05	Subtidal sands and gravels	HOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Holderness Inshore	NG 08	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Holderness Inshore	NG 08	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Holderness Inshore	NG 08	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Holderness Inshore	NG 08	Spurn Head (Subtidal)	Geological	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	agree
NG	Holderness Inshore	NG 08	Peat clay exposures	HOCI_15	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Holderness Inshore	NG 08	Ross worm <i>Sabellaria spinulosa</i> reefs	HOCI_16	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Holderness Inshore	NG 08	Subtidal chalk	HOCI_20	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Holderness Inshore	NG 08	Subtidal sands and gravels	HOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Castle Ground	NG 10	High energy intertidal rock	A1.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Castle Ground	NG 10	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Castle Ground	NG 10	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
NG	Castle Ground	NG 10	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Castle Ground	NG 10	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Castle Ground	NG 10	Intertidal mud	A2.3	Maintain	No	Advise change to 'recover' CO - see section 4.2	Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Disagree	Possibly moderate confidence due to navigational dredging over the feature
NG	Castle Ground	NG 10	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Runswick Bay	NG 11	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Runswick Bay	NG 11	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Runswick Bay	NG 11	High energy circalittoral rock	A4.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Runswick Bay	NG 11	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Runswick Bay	NG 11	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Runswick Bay	NG 11	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Runswick Bay	NG 11	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Runswick Bay	NG 11	Ocean quahog <i>Arctica islandica</i>	SOCI_3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Moderate energy intertidal rock	A1.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Low energy intertidal rock	A1.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
NG	Coquet to St Mary's	NG 13	Intertidal coarse sediment	A2.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Intertidal sand and muddy sand	A2.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Intertidal mixed sediments	A2.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Moderate energy infralittoral rock	A3.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Moderate energy circalittoral rock	A4.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Subtidal coarse sediment	A5.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Subtidal sand	A5.2	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Subtidal mud	A5.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Subtidal mixed sediments	A5.4	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Coquet to St Mary's	NG 13	Intertidal underboulder communities	HOCI_10	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Aln Estuary	NG 13a	Intertidal mud	A2.3	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Aln Estuary	NG 13a	Coastal saltmarshes and saline reedbeds	A2.5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Aln Estuary	NG 13a	High energy infralittoral rock	A3.1	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

NATURAL ENGLAND REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (Natural England advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/moderate/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
NG	Aln Estuary	NG 13a	Sheltered muddy gravels	HOCI_19	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Aln Estuary	NG 13a	Subtidal sands and gravels	HOCI_21	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree
NG	Aln Estuary	NG 13a	Estuarine rocky habitats	HOCI_5	Maintain	Yes		Low confidence	Maintain Conservation Objective has been derived from Vulnerability Analysis, therefore low confidence (see protocol F, inset box, page 13)	Agree	Agree

Table 222 JNCC review of condition assessments in offshore and joint recommended Marine Conservation Zones

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/Low/moderate/high	Rationale (see protocol F)
BS	Offshore Brighton	BS 14	High energy circalittoral rock	A4.1	Recover	Yes	Site was called BAI 14 in 3rd iteration rep.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	Offshore Brighton	BS 14	Moderate energy circalittoral rock	A4.2	Recover	Yes	Site was called BAI 14 in 3rd iteration rep.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	Offshore	BS 14	Subtidal mixed	A5.4	Recover	Yes	Site was called BAI 14 in 3rd	Low	Despite being assessed as	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
	Brighton		sediment				iteration rep. JNCC recommended a recover objective in June. We noted that the VA was slightly incomplete (missing pressure infrastructure-cables). However, completing this would not alter the objective. The recover objective is still appropriate.		likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
BS	Offshore Brighton	BS 14	Ross worm (<i>Sabellaria spinulosa</i>) Reefs	HOCI_16	Recover - see comments	Advise pending confirmation of presence of reef & not just occurrence of <i>S. spin</i>	Ross worm reef was not put forward as a feature in the 3rd iteration or for consideration in the June QA. The final recommendation report SAD set objective 'TO BE ASSESSED', but provides a RECOVER objective in Annex 1. Evidence review (16/02/12) indicates low confidence that feature is present because of this, pending further queries into data source.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	N/A	see comments in col L
BS	Offshore Brighton	BS 14	Subtidal sands and gravels	HOCI_21	Maintain	No	JNCC June advice: VA provided by the project for subtidal sands and gravels was very incomplete; missing activities & pressures. We therefore felt we could not comment at the time as to the appropriate CO for this feature. We requested that the VA be reviewed & updated by project staff. JNCC did provide feedback on specific vulnerability scores of activities & pressures which project staff provided to us for the June QA. JNCC has added (10/02/12) fishing activities and pressures to the VA & reviewed these in light of the feature sensitivity to assess the appropriateness of a maintain objective for subtidal sands & gravels. 02/02/12 - an initial assessment of fishing effort over this site, assigning moderate effort. A fuller assessment of exposure to all pressures associated with fishing	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Low	JNCC reviewed the VA for this feature (see comments in col L) & was assessed as moderately to highly vulnerable to one or more pressures. However, according to MB0102 the feature is not highly sensitive

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							activities was undertaken by LC on 10/02/12 over subtidal sands and gravels and concurs with assessment of moderate effort; the feature is regarded as moderately vulnerable to the following pressures; removal of non-target species, shallow abrasion, structural abrasion and highly vulnerable to surface abrasion, therefore JNCC advises a RECOVER objective is appropriate.				with moderate or high confidence to any pressures. Following protocol F, the confidence in this assessment if therefore low.
BS	Offshore Overfalls	BS 17	Subtidal coarse sediment	A5.1	Recover	Yes		Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	Offshore Overfalls	BS 17	Subtidal sand	A5.2	Recover	Yes		Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	Offshore Overfalls	BS 17	Subtidal mixed sediment	A5.4	Recover	Yes	.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
BS	Offshore Overfalls	BS 17	English Outburst Flood Geological feature	English Outburst Flood Geological feature	Maintain	Yes	At June QA, feature was not put forward.	High	For all geological and geomorphological features the default Conservation Objective is set to 'Maintain', and confidence for such a level for objectives is moderate (active marine-process geomorphological features) to high (relict geological and geomorphological features). Confidence in the presence of the features is high, owing to the abiotic nature of determining their existence. The features are predominantly identified on a morphological basis (derived from bathymetry), and confidence in morphology of the seabed is high. Relict marine geological and geomorphological features are typically large-scale, and the processes that created them are no longer operating, and so they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. These structures are in a steady natural decline because they are undergoing natural erosion and covering by sediment and cannot reform if damaged, but owing to their large size, they are unlikely to be affected by anthropogenic activities.	Agree	Agree
BS	Offshore Overfalls	BS 17	Ross worm <i>Sabellaria</i>	HOCI_16	Recover	Advise pending	Feature was not put forward in 3rd iteration report (Feb'11). <i>Sabellaria</i>	Low	Despite being assessed as likely to be in unfavourable	N/A	Advise re: objective/f

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
			<i>spinulosa</i> reefs			further discussion	<i>spinulosa</i> was presented for consideration in our June QA. JNCC's June feedback: Very low confidence associated with any objective set for <i>Sabellaria spinulosa</i> in this site because VA is based on an assessment of exposure which would be extremely crude; the distribution of the <i>Sabellaria</i> is not known (only information available at the time of undertaking the assessments is 4 discrete points in the ipdf) - suggest applying the objective which has been set for the underlying habitat subtidal mixed sediments on which all 4 <i>Sabellaria</i> points lie but make explicit there is very low confidence. Jan/Feb review - no <i>Sabellaria</i> points visible inside site boundary, according to data available to us (20/02/12). Source of data - requires further querying. Cannot undertake a feature-specific VA until this is resolved. See comment in col K re: our advice on CO.		condition through the vulnerability assessment process, the VA provided in the final recommendation was incomplete; Balanced Seas has not recorded to which pressures the feature is specifically mod-highly vulnerable. However, irrespective of the objective, the confidence in feature presence & extent is low & therefore confidence in feature condition can only be low.		eature is pending. While, the feature would be highly sensitive (with moderate confidence) to shallow abrasion to which the habitats on which the reef is located have been assessed to be moderately to highly vulnerable , confidence in feature presence & extent is low & therefore confidence in condition cannot be higher than low, irrespective of whichever objective was set.
BS	Offshore Overfalls	BS 17	Subtidal sands and gravels	HOCI_21	Recover	Yes - see comments	JNCC review (Feb 12) Recover objective appropriate based on exposure mainly to pressures associated with demersal trawling. June post QA feedback: VA of other habitats (subtidal sand & subtidal	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							mixed sediments) have been undertaken - subtidal sands & gravels habitat FOCI is comprised of (& is overlapped by) both habitats. Subtidal mixed sediment entirely overlaps the Hab FOCI subtidal sands & gravels - recommend applying the VA of those habitats to this feature rather than a separate assessment for an overlapping feature.'		moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
BS	Offshore Overfalls	BS 17	Subtidal sands and gravels	HOCI_21	Recover	Yes	JNCC is progressing site. See READ ME tab.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	Offshore Overfalls	BS 17	Undulate ray <i>Raja undulate</i>	SOCI_33	Maintain	Cannot assess	At June QA, feature was not put forward. Further information is required in order to undertake a VA for this feature. There is low confidence in presence. JNCC cannot provide steer as to appropriate conservation objective for this feature.	Cannot assess	Cannot assess	Cannot assess	Cannot assess
BS	Offshore South West Corner/ Wight-Barfleur Extension	BS 21	Subtidal coarse sediment	A5.1	Maintain	Yes	JNCC indicated in June 2011 advice that the assessment provided for subtidal coarse sediments was very incomplete; missing assessment of additional activities occurring & associated pressures. We therefore felt we could not comment at the time as to the appropriate CO for this feature. We requested that the VA be reviewed & updated accordingly by project staff. JNCC did provide feedback on specific vulnerability scores to pressures which the project staff provided to us. During the review of final recommendations, JNCC amended the VA (13/02/12), adding the fishing	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							activities and pressures omitted so far. >15m effort was very low over the feature, therefore a maintain was felt appropriate.				
BS	Offshore South West Corner/ Wight-Barfleur Extension	BS 21	Subtidal mixed sediment	A5.4	Maintain	Yes	JNCC indicated in June advice that the assessment provided for subtidal coarse sediments was very incomplete; missing assessment of additional activities occurring & associated pressures. We therefore felt we could not comment at the time as to the appropriate CO for this feature. We requested that the VA be reviewed & updated accordingly by project staff. JNCC did provide feedback on specific vulnerability scores to pressures which the project staff provided to us. During the review of final recommendations, JNCC amended the VA (13/02/12), adding the fishing activities and pressures omitted so far. >15m effort was very low over the feature, therefore a maintain was felt appropriate.	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
BS	Offshore South West Corner/ Wight-Barfleur Extension	BS 21	Subtidal sands and gravels	HOCI_21	Maintain	Yes	JNCC indicated in June advice that the assessment provided for subtidal coarse sediments was very incomplete; missing assessment of additional activities occurring & associated pressures. We therefore felt we could not comment at the time as to the appropriate CO for this feature. We requested that the VA be reviewed & updated accordingly by project staff. JNCC did provide feedback on specific vulnerability scores to pressures which the project staff provided to us. During the review of final recommendations, JNCC amended the VA (13/02/12), adding the fishing activities and pressures omitted so far. >15m effort was very low over the feature, therefore a maintain was felt appropriate.	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
BS	East Meridian	BS 29	Subtidal sand	A5.2	Recover	Yes	Site 29 was not put forward in 3rd iteration (Feb '11) but was put forward as a BAI at June QA.	Low	Despite being assessed as likely to be in unfavourable condition through the	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							Subtidal sand is assessed in final recommendation as highly v to removal of non-target sp, surface & shallow abrasion, JNCC advises also structural damage to seabed.		vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
BS	East Meridian	BS 29	Subtidal mixed sediment	A5.4	Recover	Yes	Site 29 was not put forward in 3rd iteration (Feb '11) but was put forward as a BAI at June QA. Subtidal mixed sediments was assessed by project to be highly vulnerable to	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	East Meridian	BS 29	Ross worm (<i>Sabellaria spinulosa</i>) reefs	HOCI_16	Recover	Advise pending further discussion	Site 29 was not put forward in 3rd iteration (Feb '11) but was put forward as a BAI at June QA. Final recommendation report (Sep '11) assigned recover objective based on vulnerability to pressures associated with benthic trawling. See comment in col K re our advice on CO.	Low (caveat)	Confidence in feature presence is low, so confidence in extent cannot be higher. However it can be lower: evidence review currently (03/03/12) says 'No records fall within in this site. However a record was on the North West boundary line.'	N/A	see comments in col L
BS	East Meridian	BS 29	Subtidal sands and gravels	HOCI_21	Recover	Yes	Site 29 was not put forward in 3rd iteration (Feb '11) but was put forward as a BAI at June QA. Subtidal sands and gravels was not put forward at June QA. Final recommendation report (Sep '11) assigned 'not assessed' to this feature due to time constraints which subsequently changed to assign a recover objective in the amendment report (Jan '11). No VA has been provided but JNCC agrees with objective, given the sub-habitats of which subtidal sands & gravels is comprised all have recover objectives.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
BS	East Meridian (Eastern side)	BS 29.2	Subtidal sand	A5.2	Recover	Yes	Site BS 29.2 was not put forward for designation in the June QA; it was later presented as an option in the final recommendation along with site BS 29. An assessment of exposure to pressures was not undertaken specifically for this site up to now, neither by the Balanced Seas project team nor SNCBs. JNCC undertook an assessment of exposure to pressures associated with fishing on 23/02/12 (LC). Feature is subject to very high levels of demersal fishing, mainly EU demersal, beaming but some UK scallop dredging. Cumulative effort ranges between 946 hrs & 2941 hours ('06-'09). The effort is high & widespread & methods of fishing are relatively non-selective, recommend high exposure & high vulnerability to associated pressures.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	East Meridian (Eastern side)	BS 29.2	Subtidal mixed sediment	A5.4	Recover	Yes	Site BS 29.2 was not put forward for designation in the June QA; it was later presented as an option in the final recommendation along with site BS 29. An assessment of exposure to pressures was not undertaken specifically for this site up to now, neither by the Balanced Seas project team nor SNCBs. JNCC undertook an assessment of exposure to pressures associated with fishing on 23/02/12 (LC) & recorded in tab 'compare JNCC score'. Feature is subject to very high levels of demersal fishing, mainly EU demersal, beaming but some very low level UK scallop dredging. Cumulative effort ranges between 1208 hrs & 2942 hours ('06-'09). The effort is high & widespread; recommend high exposure & therefore high vulnerability to associated pressures.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	East Meridian (Eastern side)	BS 29.2	Subtidal sands and gravels	HOCI_21	Recover	Yes	Site not put forward in 3rd iteration report (Feb'11) nor for JNCC's June QA. Subtidal sands & gravels was put forward in final report (Sep) but	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							'not assessed' due to time constraints. Recover objective was assigned later in amendment report (Jan'11). VA was not undertaken for subtidal sands & gravels (due to time constraints). JNCC had already reviewed (Feb'12) VA for sub-habitats subtidal sand & subtidal mixed sediment & concluded this would be sufficient to represent that for subtidal sand & gravels. JNCC therefore agrees with recover objective.		process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
BS	Inner Bank	BS 31	Moderate energy infralittoral rock	A3.2	Recover	Yes	June QA & national review by NE. JNCC reviewed final recommendation VA & agrees recover is appropriate	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	Inner Bank	BS 31	Moderate energy circalittoral rock	A4.2	Recover	Yes	June QA & national review by NE. JNCC reviewed final recommendation VA & agrees recover is appropriate	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	Inner Bank	BS 31	Subtidal coarse sediment	A5.1	Recover	Yes	June QA & national review by NE. JNCC reviewed final recommendation VA & agrees recover is appropriate	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									highly vulnerable. Therefore confidence cannot be higher than low.		
BS	Inner Bank	BS 31	Subtidal sand	A5.2	Recover	Yes	June QA & national review by NE. JNCC reviewed final recommendation VA & agrees recover is appropriate	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
BS	Inner Bank	BS 31	Native oyster <i>Ostrea edulis</i> beds	HOCI_14	Recover	Advise not listed for designation	Presence of this feature is based on 1 Cefas data point from 1999. Stakeholders have no confidence in presence (local knowledge) see final report, p10 of BS 31 SAD. Additionally, this point has been regularly resurveyed by Cefas & no further records of <i>Ostrea edulis</i> were found subsequently (email from Matthew Curtis Cefas - 05/03/12). JNCC therefore recommends this feature is not progressed further.	Low	The feature was assessed by the project to be moderately or highly vulnerable to the following pressures: removal of target species & surface abrasion associated with scallop dredging. The feature is highly sensitive, with high confidence to removal of target species. However, confidence in the assessment remains low because we cannot confirm the activity occurs over the feature. A check of VMS in GIS shows that the point data of oyster records is much smaller than VMS cells overlying it. For the purposes of the VA the fishing activity was assumed to occur over the feature as this is what is indicated by the data. However, it is only an indication and not confirmation and therefore according to protocol F, is not strong enough evidence to raise confidence.	None	JNCC has no confidence in feature presence (see comment in previous column) & so following protocol F, we can only have no confidence in any assessment of condition
BS	Inner Bank	BS 31	Native oyster <i>Ostrea edulis</i>	SOCI_22	Recover	Advise not listed for	Presence of this feature is based on 1 Cefas data point from 1999. Stakeholders have no confidence in	Low	The feature was assessed by the project to be moderately or highly	None	JNCC has no confidence

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
						designation	presence (local knowledge) see final report, p10 of BS 31 SAD. Additionally, this point has been regularly resurveyed by Cefas & no further records of <i>Ostrea edulis</i> were found subsequently (email from Matthew Curtis Cefas - 05/03/12). JNCC therefore recommends this feature is not progressed further.		vulnerable to the following pressures: removal of target species & surface abrasion associated with scallop dredging. The feature is highly sensitive, with high confidence to removal of target species. However, confidence in the assessment remains low because we cannot confirm the activity occurs over the feature. A check of VMS in GIS shows that the point data of oyster records is much smaller than VMS cells overlying it. For the purposes of the VA the fishing activity was assumed to occur over the feature as this is what is indicated by the data. However, it is only an indication and not confirmation and therefore according to protocol F, is not strong enough evidence to raise confidence, we advise confidence remains at low.		in feature presence (see comment in col L) & so following protocol F, we can only have no confidence in any assessment of condition
FS	The Canyons	FS 01	Subtidal coarse sediment	A5.1	Recover	Advise not listed for designation	Final Report (Sep'11):' <i>During the vulnerability assessment discussions, it was highlighted that setting conservation objectives for these two features may not be achievable as they only cover very small slivers of the seafloor within the site boundaries (see site map series, and table II.3.1b). The primary feature to be protected within the site is the deep-sea bed beyond the shelf break. However, a decision was ultimately taken to include them, meaning that the entire seafloor area within the site would be protected.</i> No additional evidence has been provided & so JNCC reiterates its June advice, recommending this	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	N/A	see comments in col L

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							feature is not progressed further.				
FS	The Canyons	FS 01	Subtidal sand	A5.2	Recover	Advise not listed for designation	Final Report (Sep'11):' <i>During the vulnerability assessment discussions, it was highlighted that setting conservation objectives for these two features may not be achievable as they only cover very small slivers of the seafloor within the site boundaries (see site map series, and table 11.3.1b). The primary feature to be protected within the site is the deep-sea bed beyond the shelf break. However, a decision was ultimately taken (by the project) to include them, meaning that the entire seafloor area within the site would be protected.</i> No additional evidence has been provided & so JNCC reiterates its June advice, recommending this feature is not progressed further.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	N/A	see comments in col L
FS	The Canyons	FS 01	Deep-sea bed	A6	Recover	Yes	On review of the final recommendation VA, JNCC agrees with CO put forward	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	The Canyons	FS 01	Cold-water coral reefs	HOCI_2	Recover	Yes	The feature Cold water coral reefs was not assessed using a VA; direct evidence from JNCC's survey of the Canyons area (MESH South West Approaches Canyons Survey (MESH Cruise 01-07-01) was presented & provides confirmation of widespread damage to the feature. For this reason, JNCC agrees with the recover objective for this feature. JNCC considered this feature as an Area of Search but decided not to progress as an SAC because 'Very small area of reef habitat in UK	High	The feature's condition has been assessed using direct evidence. A recover objective has been set based on information gathered during a JNCC survey of the area (MESH South West Approaches Canyons Survey (MESH Cruise 01-07-01). The information shows evidence of widespread severe damage to the feature. Following protocol F's	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							waters...much better Irish and French areas of similar habitat selected or being considered for selection as SACs.' JNCC 08 p14a Committee Paper PROGRESS TOWARDS COMPLETING THE UK NETWORK OF MARINE SPECIAL AREAS OF CONSERVATION (SACs) FOR ANNEX I HABITATS AND SITE PROPOSALS FOR HATTON BANK AND BASSURELLE BANK. JNCC therefore supports this feature being progressed as part of this multi-feature site within the MCZ process		section 3A - see table 1; the confidence score for this feature's condition assessment would be 11, which is high; the direct evidence shows widespread (3pts) & severe damage (3 pts) which is less than 12 years old (2 pts) & appropriately QA'd from a relatively reliable source (3 pts). The evidence satisfies all criteria for high confidence; with high confidence in feature extent, therefore we advise high confidence in the assessment of condition.		
FS	South-West Deep (West)	FS 02	Subtidal coarse sediment	A5.1	Recover	Yes	On review of the final recommendation VA, JNCC agrees with CO put forward	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	South-West Deep (West)	FS 02	Subtidal sand	A5.2	Recover	Yes	On review of the final recommendation VA, JNCC agrees with CO put forward	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	South-West Deep (West)	FS 02	Subtidal mixed sediment	A5.4	Recover	Yes	On review of the final recommendation VA, JNCC agrees with CO put forward	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not	Agree	Agree

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
FS	South-West Deeps (West)	FS 02	Celtic Sea Relict Sandbank	Celtic Sea Relict Sandbank	Maintain	Yes	On review of the final recommendation VA, JNCC agrees with CO put forward	High	For all geological and geomorphological features the default Conservation Objective is set to 'Maintain', and confidence for such a level for objectives is moderate (active marine-process geomorphological features) to high (relict geological and geomorphological features). Confidence in the presence of the features is high, owing to the abiotic nature of determining their existence. The features are predominantly identified on a morphological basis (derived from bathymetry), and confidence in morphology of the seabed is high. Relict marine geological and geomorphological features are typically large-scale, and the processes that created them are no longer operating, and so they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. These structures are in a steady natural decline because they are undergoing natural erosion and covering by sediment and cannot reform if damaged, but owing to their large size, they are unlikely to be affected by	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
FS	South-West Deeps (East)	FS 03	Subtidal coarse sediment	A5.1	Recover	Yes	On review of the final recommendation VA, JNCC agrees with CO put forward	Low	anthropogenic activities. Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	South-West Deeps (East)	FS 03	Subtidal sand	A5.2	Maintain	No	prior to June QA JNCC indicated that after discussion with national specialists within NE & JNCC, that the criteria on which JNCC had previously proposed a revision of feature sensitivity to abrasion from moderate to low was not sufficiently robust & therefore JNCC recommended revising the sensitivity score to abrasion back to the original score, which would have then resulted in moderate-high vulnerabilities to the 3 abrasion categories & a recover objective being proposed in the June QA. Unfortunately, it is indicated in the Finding Sanctuary Final Recommendation Report that the RSG was unable to fully consider this information in the time available, to inform the final CO & so a maintain objective remained. JNCC therefore advises the recover objective advised in June 2011, is appropriate.	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Low	JNCC has assessed this feature to be in unfavourable condition based on mod-high vulnerabilities to several pressures associated with benthic trawling. However, according to MB0102 the feature is not highly sensitive, with moderate or high confidence to any of those pressures. Therefore, according to protocol

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
											F, this assessment of condition does not satisfy criteria to raise confidence above low.
FS	South-West Deeps (East)	FS 03	Deep-sea bed	A6	Recover	Yes	On review of the final recommendation VA, JNCC agrees with CO put forward	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	South-West Deeps (East)	FS 03	Celtic sea relict sandbanks	Celtic sea relict sandbanks	Maintain	Yes	The conservation value of large-scale glacial erosion and deposition features can be reduced if the features become buried, or are eroded by natural processes or anthropogenic means. This is because they are ancient, relict, features that are not capable of 'recovery'; they are in a natural state of decline, since the processes that formed the features are no longer operating. Because of the topographical scale of the features (reflected in bathymetry) and the areal extent of the features, shallow depth erosion/sediment disturbance or depositional cover is unlikely to significantly affect the research value of the features in most cases. For this reason, the feature is not regarded as moderately or highly vulnerable to pressures associated with human activities currently occurring over or near the feature and a maintain objective is appropriate.	High	For all geological and geomorphological features the default Conservation Objective is set to 'Maintain', and confidence for such a level for objectives is moderate (active marine-process geomorphological features) to high (relict geological and geomorphological features). Confidence in the presence of the features is high, owing to the abiotic nature of determining their existence. The features are predominantly identified on a morphological basis (derived from bathymetry), and confidence in morphology of the seabed is high. Relict marine geological and geomorphological features are typically large-scale, and the processes that created	Agree	Agree

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									they are no longer operating, and so they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. These structures are in a steady natural decline because they are undergoing natural erosion and covering by sediment and cannot reform if damaged, but owing to their large size, they are unlikely to be affected by anthropogenic activities.		
FS	North-West of Jones Bank	FS 04	Subtidal coarse sediment	A5.1	Recover	Yes	On review of the final recommendation VA, JNCC agrees with CO put forward	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	North-West of Jones Bank	FS 04	Subtidal sand	A5.2	Recover	Advise not listed for designation	JNCC reiterates June advice, that the feature not be listed for designation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	N/A	see comments in col L
FS	North-West of Jones Bank	FS 04	Subtidal mud	A5.3	Recover	Yes	On review of the final recommendation VA, JNCC agrees with CO put forward	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
FS	Greater Haig Fras	FS 05	Moderate energy circalittoral rock	A4.2	Recover	Advise not listed for designation	We would not support a CO being set for the additional rock BSH as it abuts the SAC boundary. To be consistent with the line in Section 4.2 we would advise that this feature is not progressed for designation within the MCZ and additional survey work is undertaken to determine what feature is actually present on the seabed at that location.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	NA	see comments in col L
FS	Greater Haig Fras	FS 05	Subtidal coarse sediment	A5.1	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	Greater Haig Fras	FS 05	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	Greater Haig Fras	FS 05	Subtidal mud	A5.3	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment	Agree	Agree

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							final recommendation		process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
FS	Greater Haig Fras	FS 05	Subtidal mixed sediments	A5.4	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	Greater Haig Fras	FS 05	Haig Fras rock complex	Haig Fras rock complex	Maintain	Advise not listed for designation	This feature is considered by JNCC as already being afforded protection as part of the Haig Fras cSAC. Recent survey indicates additional reef lies slightly east of the current boundary. JNCC may need to revise the cSAC boundary to include this Annex 1 reef. JNCC therefore recommends this feature is considered for progression through the Natura process.	High	For all geological and geomorphological features the default Conservation Objective is set to 'Maintain', and confidence for such a level for objectives is moderate (active marine-process geomorphological features) to high (relict geological and geomorphological features). Confidence in the presence of the features is high, owing to the abiotic nature of determining their existence. The features are predominantly identified on a morphological basis (derived from bathymetry), and confidence in morphology of the seabed is high. Relict marine geological and geomorphological features are typically large-scale, and the processes that created them are no longer	N/A	see comments in col L

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									operating, and so they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. These structures are in a steady natural decline because they are undergoing natural erosion and covering by sediment and cannot reform if damaged, but owing to their large size, they are unlikely to be affected by anthropogenic activities.		
FS	Greater Haig Fras	FS 05	Fragile sponge & anthozoan communities	HOCI_7	To be confirmed	Advise not listed for designation	CO was lacking from Finding Sanctuary draft & final recommendations. Finding Sanctuary did not put forward a CO for this feature, leaving it in the Final Report as: <i>'To be confirmed (Pending check; presence of records outside SAC boundary to be confirmed)'</i> . This feature was not presented for consideration in the June QA. Subsequent check in GIS, confirms that the fragile sponge & anthozoan points lie inside current cSAC boundary & therefore afforded protection under the Natura process.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	N/A	see comments in col L
FS	East of Jones Bank	FS 06	Moderate energy circalittoral rock	A4.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	East of Jones Bank	FS 06	Subtidal sand	A5.2	Recover	Advise not listed for designation	JNCC reiterates June 2011 QA advice that this feature is not listed for designation. JNCC advise that a conservation objective is not appropriate for this feature within the current site	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with	N/A	see earlier comments

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							boundary; given the wider distribution of the feature beyond the site boundary it is unlikely that a conservation objective would be achievable for the feature within the site.		moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
FS	East of Jones Bank	FS 06	Subtidal mud	A5.3	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	East of Haig Fras	FS 07	Moderate energy circalittoral rock	A4.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	East of Haig Fras	FS 07	Subtidal coarse sediment	A5.1	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	East of Haig Fras	FS 07	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review	Low	Despite being assessed as likely to be in unfavourable condition through the	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							of VA agrees with CO put forward in final recommendation		vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
FS	North east of Haig Fras ⁸⁷	FS 08	Subtidal coarse sediment	A5.4	Maintain	Yes		Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
FS	North east of Haig Fras	FS 08	Subtidal mixed sediment	A5.1	Recover	Yes		Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	North east of Haig Fras	FS 08	Subtidal sand	A5.2	Maintain	Yes		Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many	Agree	Agree

⁸⁷ Please note that the conservation objectives are taken from the North-East of Haig Fras rMCZ site report p288 of Lieberknecht et al. (2011) which list different objectives than the draft conservation objective summary (p135).

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration..		
FS	North east of Haig Fras	FS 08	Subtidal mud	A5.3	Recover	yes		Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	South of Celtic Deep	FS 09	Subtidal coarse sediment	A5.1	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	South of Celtic Deep	FS 09	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	South of Celtic Deep	FS 09	Subtidal mud	A5.3	Recover	Advise not listed for designat	JNCC reiterates June 2011 QA advice that this feature is not listed for designation. JNCC advise that a conservation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment	N/A	see comments

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
						ion	objective is not appropriate for this feature within the current site boundary; given the wider distribution of the feature beyond the site boundary it is unlikely that a conservation objective would be achievable for the feature within the site.		process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
FS	South of Celtic Deep	FS 09	Subtidal mixed sediments	A5.4	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	Celtic Deep	FS 10	Subtidal mud	A5.3	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	Celtic Deep	FS 10	Mud habitats in deep water	HOCI_13	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Moderate	The feature has been assessed to be highly vulnerable to shallow abrasion, penetration and/or disturbance of seabed & removal of non-target species, all pressures associated with relatively very high >15m nephrops trawling. These are pressures to which the feature is also highly sensitive with mod or high confidence. There is also	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									moderate confidence in feature extent. A check of VMS in GIS confirms overlap of nephrops fishing over mud habitats in deep water; there is at least one VMS cell lying entirely within the feature boundary. Taking all these factors into consideration the criteria for moderate confidence as outlined in protocol F are satisfied.		
FS	East of Celtic Deep	FS 11	Subtidal coarse sediment	A5.1	Recover	Advise not listed for designation	JNCC reiterates June 2011 QA advice that this feature is not listed for designation. JNCC advise that a conservation objective is not appropriate for this feature within the current site boundary; given the wider distribution of the feature beyond the site boundary it is unlikely that a conservation objective would be achievable for the feature within the site.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	N/A	see comments in col L
FS	East of Celtic Deep	FS 11	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	East of Celtic Deep	FS 11	Subtidal mud	A5.3	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									highly vulnerable. Therefore confidence cannot be higher than low.		
FS	Western Channel	FB12	Subtidal coarse sediment	A5.1	Recover	Yes		Low	Confidence can only be low where an the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
FS	Western Channel	FB12	Subtidal mixed sediment	A5.4	Recover	Yes		Low	Despite being assessed as likely to be in unfavourable condition though the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	Western Channel	FB12	Moderate energy circalittoral rock	A4.2	Recover	Yes		Low	Confidence can only be low where an the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration. than low.	Agree	Agree
FS	South of the Isles of Scilly	FS 13	Subtidal coarse sediment	A5.1	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
FS	South of the Isles of Scilly	FS 13	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	South-east of Falmouth	FS 30	Subtidal coarse sediment	A5.1	Recover	Yes	Site was previously led by NE when site was inshore; it is now offshore & led by JNCC. VA reviewed by JNCC (LC-06/03/12). No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
FS	South-east of Falmouth	FS 30	Subtidal sand	A5.2	Recover	Advise not listed for designation	Site was previously led by NE when it was located inshore; it has since moved offshore & is led by JNCC. JNCC advises no objective is set for this feature given the wider distribution of the feature beyond the site boundary it is unlikely that a conservation objective would be achievable for the feature within the site.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	N/A	see comments
ISCZ	Mud Hole	ISCZ 01	Subtidal mud	A5.3	Recover	Yes	Recover objective was not set based on a VA alone but also evidence	Low	Despite being assessed as likely to be in unfavourable	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							from scientific literature highlighted in ICSZ's Final Recommendation Report 'CO is recover due to high vulnerability because there is scientific evidence in paper by Hinks and Kaiser saying that the community has changed substantially because of intensity of the fishing. The map does not show the wider mud and deep water foci as highlighted in the paper by Chris Lumb (Mud evidence base NE20Feb11). Essentially all subtidal mud and the other half has three components of the mud FOCI in it – evidence comes from windfarm and Atkins. JNCC agrees with objective which VA supports, as feature is assessed as being mod-highly vulnerable to the following pressures associated with high benthic trawling & dredging effort: removal of non-target sp (highly sensitive), removal of target sp (highly sensitive), shallow, surface & structural abrasion (low sensitivity). While evidence in Hinz <i>et al.</i> , 2009, does support the recover objective, evidence relating specifically to feature condition is indirect. Only two of the 20 sample sites in the study lie within the feature boundary, however conclusions regarding chronic trawl disturbance leading to clear changes in community composition of benthic infauna & epifauna were made on the basis of information from over 20 sites. While supportive of the assessment of likely unfavourable condition, the paper does not present direct evidence of feature condition and so confidence in the assessment remains low.		condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
ISCZ	Mud Hole	ISCZ 01	Deep water mud habitats	HOCI_13	Recover	Yes	Recover objective was set based on the VA of overlapping mud feature & evidence from scientific literature. 'CO is recover due to high vulnerability because there is	Low (caveat)	The feature has been assessed as moderately to highly vulnerable to several pressures, associated with nephrops fishing, to which it	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							scientific evidence in paper by Hinks and Kaiser saying that the community has changed substantially because of intensity of the fishing. The map does not show the wider mud and deep water foci as highlighted in the paper by Chris Lumb (Mud evidence base NE20Feb11). Essentially all subtidal mud and the other half has three components of the mud FOCl in it – evidence comes from windfarm and Atkins. JNCC agrees with objective which VA supports, as feature is assessed as being mod-highly vulnerable to the following pressures associated with high benthic trawling & dredging effort: removal of non-target sp (highly sensitive with high conf), removal of target sp (low sensitivity), shallow & structural abrasion (high sensitivity with mod conf).		is highly sensitive with moderate to high confidence. We also have moderate confidence in feature extent. However, GIS examination of the VMS data shows that it is at too poor resolution to allow confirmation of the nephrops fishing over the feature itself. Confidence in this assessment is therefore still low. This confidence score although should, however, be caveated; it is highly likely that the activity is occurring over the feature because there is significant overlap of at least one VMS cell with relatively very high hours of >15m nephrops fishing effort (>2000hrs '06-'09). This high level of effort, combined with significant overlap it is a strong indication that the nephrops is occurring over the feature.		
ISCZ	Mud Hole	ISCZ 01	Sea-pen and burrowing megafauna	HOCI_18	Recover	Yes	Recover objective was set based on a VA for overlapping subtidal mud & evidence from scientific literature. 'CO is recover due to high vulnerability because there is scientific evidence in paper by Hinks and Kaiser saying that the community has changed substantially because of intensity of the fishing. The map does not show the wider mud and deep water foci as highlighted in the paper by Chris Lumb (Mud evidence base NE20Feb11). Essentially all subtidal mud and the other half has three components of the mud FOCl in it – evidence comes from windfarm and Atkins. JNCC agrees with objective which VA supports, as feature is assessed as being mod-highly vulnerable to the following pressures	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							associated with high benthic trawling & dredging effort: removal of non-target sp (highly sensitive), removal of target sp (highly sensitive), shallow, surface & structural abrasion (low sensitivity).				
ISCZ	North St. George's Channel	ISCZ 03a	High energy circalittoral rock	A4.1	Maintain	Yes	Final boundary -extension added to NE of site. JNCC reviewed VA in light of amendment to boundary since the June 2011 QA. No additional information provided which would indicate a maintain is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
ISCZ	North St. George's Channel	ISCZ 03a	Moderate energy circalittoral rock	A4.2	Maintain	Yes	Final boundary -extension added to NE of site. JNCC reviewed VA in light of amendment to boundary since the June 2011 QA. No additional information provided which would indicate a maintain is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
ISCZ	North St. George's Channel	ISCZ 03a	Subtidal coarse sediment	A5.1	Maintain	Yes	Final boundary -extension added to NE of site. JNCC reviewed VA in light of amendment to boundary since the June 2011 QA. No additional information provided which would indicate a maintain is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
ISCZ	North St.	ISCZ	Subtidal sand	A5.2	Recover	Yes	Final boundary -extension added to	Low	Despite being assessed as	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
	George's Channel	03a					NE of site. JNCC reviewed VA in light of amendment to boundary since the June 2011 QA. No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation		likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
ISCZ	North St. George's Channel	ISCZ 03a	Subtidal mixed sediment	A5.4	Maintain	Yes	Final boundary -extension added to NE of site. JNCC reviewed VA in light of amendment to boundary since the June 2011 QA. No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
ISCZ	North St. George's Channel	ISCZ 03a	Subtidal biogenic reefs	A5.6	Recover	Advise not listed for designation	Given this feature fulfils the definition of a biogenic reef, JNCC may consider designating this under the Natura process should evidence support the presence of reef. <i>Modiolus modiolus</i> reef is currently not adequately represented in the Irish Sea. JNCC therefore advises this feature would be best considered for progression through the Natura process should presence be confirmed.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	N/A	see comments
ISCZ	North St. George's Channel	ISCZ 03a	Drumlins	Drumlins	Maintain	Yes	No additional information provided which would indicate a default maintain is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	High	For all geological and geomorphological features the default Conservation Objective is set to 'Maintain', and confidence for such a level for objectives is moderate (active marine-process geomorphological features) to high (relict geological and	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									geomorphological features). Confidence in the presence of the features is high, owing to the abiotic nature of determining their existence. The features are predominantly identified on a morphological basis (derived from bathymetry), and confidence in morphology of the seabed is high. Relict marine geological and geomorphological features are typically large-scale, and the processes that created them are no longer operating, and so they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. These structures are in a steady natural decline because they are undergoing natural erosion and covering by sediment and cannot reform if damaged, but owing to their large size, they are unlikely to be affected by anthropogenic activities.		
ISCZ	North St. George's Channel	ISCZ 03a	Subtidal sands and gravels	HOCI_21	Recover	Yes	Final boundary -extension added to NE of site. JNCC reviewed VA in light of amendment to boundary since the June 2011 QA. No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	North St. George's Channel	ISCZ 03a	Horse mussel (<i>Modiolus modiolus</i>) beds	HOCI_9	Recover	Advise not listed for designat	This feature fulfils the definition of a biogenic reef, JNCC may consider designating this under the Natura process should evidence in the	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment	N/A	see comments

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
						ion	future support the presence of reef. <i>Modiolus modiolus</i> reef is currently not adequately represented in the Irish Sea. JNCC therefore advises this feature would be best considered for progression through the Natura process should presence be confirmed.		process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
ISCZ	Mid St. George's Channel	ISCZ 04	Moderate energy circalittoral rock	A4.2	Maintain	Yes	JNCC advice in June agreed with project's VA which indicated no moderate-high vulnerabilities to any pressures for this feature. However a recover objective was recorded in the COs tab of the VA spreadsheet provided to us. This may be a simple recording error but need to confirm this. Checked in report, actual CO statement says maintain.	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
ISCZ	Mid St. George's Channel	ISCZ 04	Subtidal coarse sediment	A5.1	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	Mid St. George's Channel	ISCZ 04	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
ISCZ	Mid St. George's Channel	ISCZ 04	Subtidal mixed sediment	A5.4	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	Mid St. George's Channel	ISCZ 04	Subtidal sands and gravels	HOCI_21	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	North of Celtic Deep	ISCZ 05	Moderate energy circalittoral rock	A4.2	Maintain	Yes	No additional information provided which would indicate a maintain is not appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
ISCZ	North of Celtic Deep	ISCZ 05	Subtidal coarse sediment	A5.1	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
ISCZ	North of Celtic Deep	ISCZ 05	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	North of Celtic Deep	ISCZ 05	Subtidal sands and gravels	HOCI_21	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	South Rigg	ISCZ 06	Low energy circalittoral rock	A4.3	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	South Rigg	ISCZ 06	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
ISCZ	South Rigg	ISCZ 06	Subtidal mud	A5.3	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	South Rigg	ISCZ 06	Deep water mud habitats	HOCI_13	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	low confidence in extent	Agree	Agree
ISCZ	South Rigg	ISCZ 06	Sea-pen & burrowing megafauna	HOCI_18	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	South Rigg	ISCZ 06	Ocean quahog <i>Artica islandica</i>	SOCI_3	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Cannot confirm overlap of fishing on feature & mod confidence in presence but there is no assessment of confidence in extent yet (as of 03/04/12). Irrespective of the confidence in presence/extent, the lack of confirmation of overlap is the limiting factor in our confidence in feature	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
ISCZ	Slieve Na Griddle	ISCZ 07	Low energy circalittoral rock	A4.3	Recover	Advise not listed for designation	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Pisces Reef. Part of the data acquisition for the MCZ process has identified areas outside of the current pSAC boundary that may be reef, these areas are being investigated and will be considered for inclusion within the Pisces reef complex	Low	condition. Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	NA	see comments in col L
ISCZ	Slieve Na Griddle	ISCZ 07	Subtidal mud	A5.3	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
ISCZ	Slieve Na Griddle	ISCZ 07	Deep water mud habitats	HOCI_13	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Moderate	Mod confidence in extent & can confirm overlap of nephrops fishing on feature. Examination in GIS of >15m VMS activity, at least one cell lies entirely within the feature boundary and contains >1700hrs ('06-'09) nephrops fishing.	Agree	Agree
NG	Wash Approach	NG 04	Subtidal sand	A5.2	Maintain	Advice pending further discussion	Advice pending further discussion	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into	Low	According to MB0102, the feature is not highly sensitive with moderate or high confidence to any pressures.

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									consideration.		Therefore, according to the criteria outlined in protocol F, this assessment does not satisfy the requirements for moderate confidence. Confidence is low irrespective of the final CO advised.
NG	Wash Approach	NG 04	Subtidal mixed sediments	A5.4	Maintain	Advice pending further discussion	Advice pending further discussion	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Low	According to MB0102, the feature is not highly sensitive with moderate or high confidence to any pressures. Therefore, according to the criteria outlined in protocol F, this assessment does not satisfy the requirements for moderate

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
											confidence Confidence is low irrespective of the final CO advised.
NG	Wash Approach	NG 04	Subtidal sands and gravels	HOCI_21	Maintain	Advice pending further discussion	Advice pending further discussion	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Low	Advice pending further discussion
NG	Silver Pit	NG 06	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
NG	Silver Pit	NG 06	Subtidal mixed sediments	A5.4	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
NG	Silver Pit	NG 06	Ross worm	HOCI_16	Maintain	No	JNCC reiterates rationale for a	Low	Confidence can only be low	Low	JNCC

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
			(<i>Sabellaria spinulosa</i>) reefs		'Although the draft conservation objective for all features had been set to recover, with the exception of Ross worm (<i>Sabellaria spinulosa</i>) reefs, the JNCC suggested that as <i>Sabellaria</i> is more sensitive to pressures than the underlying broad scale habitat on which it is located it too should have a conservation objective of recover. Whilst JNCC's comments are duly noted, the position that was developed through discussion with the RSG (Ross worm [<i>Sabellaria spinulosa</i>] reefs conservation objective set to maintain) has been preserved. Following receipt of JNCC's advice there was no opportunity to fully discuss this suggestion with the RSG and the agreed position developed at the Regional Hub		recover objective presented at the June QA, since no further data was provided by Net Gain to support their recommendation. JNCC reviewed VA . No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation.		where an assessment of condition uses a vulnerability assessment approach and not direct evidence resulting in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.		reviewed the VA for this feature, reiterating June 2011 QA advice that feature is likely to be in unfavourable condition, the feature is highly sensitive with moderate confidence to shallow abrasion to which it is mod-highly vulnerable . According to the evidence review there is high confidence associated with the feature's presence and extent. However, a check in GIS shows that due to the limited spatial resolution of the VMS data,

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
					meetings has therefore been maintained.'						we cannot confirm the fishing which is associated with the relevant pressures is actually occurring on the feature itself. Therefore, following protocol F, confidence in condition remains low.
NG	Silver Pit	NG 06	Subtidal sands and gravels (modelled)	HOCI_21	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
NG	Silver Pit	NG 06	North Sea glacial tunnel valley	North Sea glacial tunnel valley	Maintain	Yes	No additional information provided which would indicate a default maintain is not appropriate. JNCC on review, agrees with CO put forward in final recommendation	High	For all geological and geomorphological features the default Conservation Objective is set to 'Maintain', and confidence for such a level for objectives is moderate (active marine-process geomorphological features) to high (relict geological and geomorphological features). Confidence in the presence of the features is high, owing to the abiotic nature of determining their	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									existence. The features are predominantly identified on a morphological basis (derived from bathymetry), and confidence in morphology of the seabed is high. Relict marine geological and geomorphological features are typically large-scale, and the processes that created them are no longer operating, and so they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. These structures are in a steady natural decline because they are undergoing natural erosion and covering by sediment and cannot reform if damaged, but owing to their large size, they are unlikely to be affected by anthropogenic activities.		
NG	Markham's Triangle	NG 07	Subtidal coarse sediment	A5.1	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
NG	Markham's Triangle	NG 07	Subtidal sand	A5.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.		
NG	Holderness offshore (formerly Damnation Alley - Westermost Rough)	NG 09	Subtidal coarse sediment	A5.1	Recover	Yes	JNCC reviewed VA provided in final recommendation, in light of pressures associated with fishing - JNCC advises Recover is appropriate in light of what is regarded as high levels of demersal trawling activity.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
NG	Holderness offshore (formerly Damnation Alley - Westermost Rough)	NG 09	Subtidal mixed sediments	A5.4	Recover	Yes	JNCC reviewed VA provided in final recommendation. –JNCC advises recover is appropriate in light of what is regarded as moderate bottom trawling & moderate dredging activity.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
NG	Compass Rose	NG 12	Moderate energy circalittoral rock	A4.2	Recover	Yes	No additional information provided which would indicate a recover is no longer appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Confidence in feature presence & extent is low. Therefore, following protocol F, confidence in feature condition cannot be higher than low.	Agree	Agree
NG	Farnes East	NG 14	Moderate energy circalittoral rock	A4.2	Maintain	Advice pending further discussion	Advice pending further discussion	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into	Low	According to MB0102 the feature is not highly sensitive with moderate or high confidence to any pressures. Following

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									consideration.		protocol F, the confidence in this assessment if therefore low irrespective of the CO finally advised.
NG	Farnes East	NG 14	Subtidal coarse sediment	A5.1	Maintain	Advice pending further discussion	Advice pending further discussion	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Low	According to MB0102 the feature is not highly sensitive with moderate or high confidence to any pressures. Following protocol F, the confidence in this assessment if therefore low, irrespective of the CO finally advised.
NG	Farnes East	NG 14	Subtidal sand	A5.2	Maintain	Advice pending further discussion	Advice pending further discussion	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities	Low	According to MB0102 the feature is not highly sensitive with moderate or high confidence to any pressures.

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									cannot be taken into consideration.		Following protocol F, the confidence in this assessment if therefore low, irrespective of CO finally advised.
NG	Farnes East	NG 14	Subtidal mud	A5.3	Recover	Yes	JNCC reviewed VA (LC 06/03/12) to account for pressures caused by commercial fishing activities, recreational fisheries and cumulative pressures. JNCC agrees a recover objective is appropriate for this feature. The fisheries standardisation pre sense-checked output (v3) assesses effort at moderate for bottom trawling and low for dredging. Cumulative exposure to mobile demersal fishing would therefore indicate that the feature would be mod-highly vulnerable to several pressures associated with these activities.	Low	Despite being assessed as likely to be in unfavourable condition through the vulnerability assessment process, the feature is not highly sensitive with moderate or high confidence to any of the pressures to which the feature has been assessed as moderately or highly vulnerable. Therefore confidence cannot be higher than low.	Agree	Agree
NG	Farnes East	NG 14	Subtidal mixed sediments	A5.4	Maintain	Advice pending further discussion	Advice pending further discussion	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Low	According to MB0102 the feature is not highly sensitive with moderate or high confidence to any pressures. Following protocol F, the confidence in this assessment if therefore

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
											low, irrespective of CO finally advised.
NG	Farnes East	NG 14	Peat and clay exposures	HOCI_15	Maintain	Yes	JNCC reviewed VA (LC 06/03/12) to account for pressures caused by commercial fishing activities, recreational fisheries and cumulative pressures. Stakeholder comments say trawlers avoid the feature, this is supported by VMS activity of >15m vessels & pre sense-checked fisheries standardisation output (v3) and feedback from Natural England regional advisors. No pressures regarded as resulting in mod-high vulnerability, therefore we agree with the objective put forward for this feature; a maintain is appropriate.	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
NG	Rock Unique	NG 15	Low energy circalittoral rock	A4.3	Maintain	yes		Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
NG	Rock Unique	NG 15	Subtidal coarse sediment	A5.1	Maintain	yes		Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
NG	Rock	NG 15	Subtidal sand	A5.2	Maintain	yes		Low	Confidence can only be low	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
	Unique								where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.		
NG	Rock Unique	NG 15	Subtidal sands and gravels	HOCI_21	Maintain	yes		Low	Confidence can only be low where an the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
NG	Swallow Sand	NG 16	Subtidal coarse sediment	A5.1	Maintain	Yes	No additional information provided which would indicate a maintain is not appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree
NG	Swallow Sand	NG 16	Subtidal sand	A5.2	Maintain	No	Clarification was provided by Natural England regional adviser at the NE Hub, to explain why Net Gain felt it appropriate to adopt a maintain CO for a non-geological feature here based on the default maintain applied to large scale geomorphological feature Swallow	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many	Low	According to MB0102 the feature is not highly sensitive with moderate

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Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
					<p>Hole feature within this rMCZ that the conservation objective for the site features should be set to recover rather than maintain. Whilst JNCC's comments are duly noted, the position that was developed through discussion with the RSG has been preserved. Advice from Natural England¹⁶ recommends that, as regards the condition of Swallow Hole, the site should be set to 'maintain'. The agreed position developed at the Regional Hub meetings has therefore been maintained.</p> <p>¹⁶ Swallow Hole is a glacial tunnel valley but comprises a somewhat smaller feature than Inner Silver Pit. All of the sensitivities identified for the Inner Silver Pit (e.g. aggregate extraction and, to a lesser</p>		<p>Hole. Natural England regional advisor response showed that Net Gain had mistakenly confused the Geological feature called Swallow Hole for the Swallow Hole fishing ground which encompasses subtidal sand features. Natural England had correctly advised Net Gain that the Swallow Hole geol feature would not be sensitive to anthropogenic pressures & therefore a maintain CO was appropriate. Natural England has also clarified that this advice was not pertinent to subtidal sands and gravels in Swallow Hole site, it was specific to a geol feature called Swallow Hole and that the ecological features being put forward in Swallow Sand rMCZ may be sensitive to anthropogenic pressures. In light of this clarification from Natural England, JNCC does not consider the supporting argument for a maintain objective to be sufficiently robust and therefore reiterates its June 2011 QA advice that the feature is low to moderately vulnerable to pressures associated with benthic trawling occurring over the feature and therefore a recover objective is more appropriate.</p> <p>JNCC feels their interpretation of the exposure data follows the COG, which requires the assessment of vulnerability to employ the precautionary approach, while acknowledging the assessment of exposure has low confidence.</p>		<p>uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.</p>		<p>or high confidence to any pressures. Following protocol F, the confidence in this assessment if therefore low, irrespective of the CO finally advised.</p>

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
					extent, platform construction) apply to this feature. However, as a consequence of the smaller size of the Swallow Hole feature, sensitivities related to the placement or construction of platforms as well as infrastructure could be considered to be heightened. Given the levels of activity associated with the area it was suggested by Natural England that, for the most part, the Swallow Hole site would be in good condition. Natural England advice would be for the Conservation Objective to aim to maintain the Swallow Hole feature in its current state.						
NG	Swallow Sand	NG 16	Subtidal sands and gravels (modelled)	HOCI_21	Maintain 'The JNCC suggested that due to localised high intensity fishing activity focused around the Swallow Hole feature within this rMCZ	No	Clarification was provided by Natural England regional adviser at the NE Hub, to explain why Net Gain felt it appropriate to adopt a maintain CO for a non-geological feature here based on the default maintain applied to large scale geomorphological feature Swallow Hole found inshore. Natural England regional advisor	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol	Low	JNCC reviewed the VA for this feature (see comments in col L) & was assessed

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
					<p>that the conservation objective for the site features should be set to recover rather than maintain. Whilst JNCC's comments are duly noted, the position that was developed through discussion with the RSG has been preserved. Advice from Natural England¹⁶ recommends that, as regards the condition of Swallow Hole, the site should be set to 'maintain'. The agreed position developed at the Regional Hub meetings has therefore been maintained.</p> <p>¹⁶ Swallow Hole is a glacial tunnel valley but comprises a somewhat smaller feature than Inner Silver Pit. All of the sensitivities identified for the Inner Silver Pit (e.g. aggregate extraction and, to a lesser extent, platform construction)</p>		<p>response showed that Net Gain had mistakenly confused the Geological feature inshore called Swallow Hole for the Swallow Hole fishing ground which encompasses subtidal sand features here. Natural England had correctly advised Net Gain that the Swallow Hole geol feature would not be sensitive to anthropogenic pressures & therefore a maintain CO was appropriate. Natural England has also clarified that this advice was not pertinent to subtidal sands and gravels in Swallow Hole site and that this offshore feature, unlike the Swallow Hole geol feature found inshore, may be sensitive to anthropogenic pressures. In light of this clarification from Natural England, JNCC does not consider the supporting argument for a maintain objective to be sufficiently robust and therefore reiterates its June 2011 QA advice that the feature is low to moderately vulnerable to pressures associated with benthic trawling occurring over the feature and therefore a recover objective is more appropriate.</p> <p>JNCC feels their interpretation of the exposure data follows the COG, which requires the assessment of vulnerability to employ the precautionary approach, while acknowledging the assessment of exposure has low confidence.</p>		<p>F) not least of which is the fact that historical activities cannot be taken into consideration.</p>		<p>as moderately to highly vulnerable to one or more pressures. However, according to MB0102 the feature is not highly sensitive with moderate or high confidence to any pressures. Following protocol F, the confidence in this assessment if therefore low.</p>

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
					apply to this feature. However, as a consequence of the smaller size of the Swallow Hole feature, sensitivities related to the placement or construction of platforms as well as infrastructure could be considered to be heightened. Given the levels of activity associated with the area it was suggested by Natural England that, for the most part, the Swallow Hole site would be in good condition. Natural England advice would be for the Conservation Objective to aim to maintain the Swallow Hole feature in its current state.						
NG	Swallow Sand	NG 16	North Sea glacial tunnel valleys (Swallow hole)	North Sea glacial tunnel valleys (Swallow hole)	Maintain	Yes	No additional information provided which would indicate a default maintain is not appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	High	For all geological and geomorphological features the default Conservation Objective is set to 'Maintain', and confidence for such a level for objectives is moderate (active marine-process geomorphological features) to high (relict geological and geomorphological features).	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
									Confidence in the presence of the features is high, owing to the abiotic nature of determining their existence. The features are predominantly identified on a morphological basis (derived from bathymetry), and confidence in morphology of the seabed is high. Relict marine geological and geomorphological features are typically large-scale, and the processes that created them are no longer operating, and so they are subject to natural decline in conservation value owing to erosion and burial, outside of any anthropogenic activity. These structures are in a steady natural decline because they are undergoing natural erosion and covering by sediment and cannot reform if damaged, but owing to their large size, they are unlikely to be affected by anthropogenic activities.		
NG	Fulmar	NG 17	Subtidal sand	A5.2	Maintain.'	Yes	On review of VA and JNCC marine industry advisor feedback, JNCC advises no additional information is provided which would indicate a maintain is not appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree - see comments in col K
NG	Fulmar	NG 17	Subtidal sands and gravels (modelled)	HOCI_21	Maintain.'	Yes-	On review of VA and JNCC marine industry advisor feedback, JNCC advises no additional information is provided which would indicate a	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment	Agree	Agree

JNCC REVIEW OF CONSERVATION OBJECTIVES (CO)								CONFIDENCE ASSESSMENT (Final recommendation)		CONFIDENCE ASSESSMENT (JNCC advice)	
Regional Project ID	Site Name	Site ID	Feature name	Feature Code	Final CO recommended in report	Agree with final CO?	Comments	Low/mod/high	Rationale (see protocol F(Natural England & JNCC, 2012f))	None/ Low/ moderate/ high	Rationale (see protocol F)
							maintain is not appropriate. JNCC on review of VA agrees with CO put forward in final recommendation		approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.		
NG	Fulmar	NG 17	Ocean quahog (<i>Artica islandica</i>)	SOCI_3	Maintain	Yes -	On review of VA and JNCC marine industry advisor feedback, JNCC advises no additional information is provided which would indicate a maintain is not appropriate. JNCC on review of VA agrees with CO put forward in final recommendation	Low	Confidence can only be low where the assessment of condition using a vulnerability assessment approach and not direct evidence which results in a maintain objective. This is because there are many uncertainties inherent in the VA approach (see protocol F) not least of which is the fact that historical activities cannot be taken into consideration.	Agree	Agree -

Annex 8 Details of automated process for assessing confidence in presence and extent

A8.1. Introduction

A8.1. Natural England initiated an automated analysis of the data to aid the analysis of our confidence in presence and extent and limit the likelihood of user error. Natural England and Marine Mapping Ltd used technical protocol E (Natural England & JNCC 2012e) to generate confidence assessment flow charts (**Figure 32–Figure 37**). The data were taken from source and where possible and did not rely on any previous extractions or manipulations of data. This process for data analysis, and subsequent confidence-generated assessments of the data allowed us to identify errors in data such as incorrect Mapping European Seabed Habitats project (MESH) scores in the geographic information data tables and inconsistent user assessments of confidence.

A8.2. The automated analyses of the data were used as a quality control mechanism. Natural England also performed manual assessments and sent the results to regional staff for sense checking of results. The iterative process of the three methods forms the basis of our results in [Section 5.1](#) and [Annex 9](#). A worked example below describes Natural England’s approach and is intended to make our decision-making processes clear, auditable and transparent to readers.

A8.2. A worked example

A8.3. In this example we follow three confidence assessments for species presence and extent (**Figure 30**). Technical protocol E (Natural England & JNCC 2012e) was converted into decision trees for geographic information analysis. The data generated from the queries within the geographic information supply us with the necessary information to follow technical protocol E and generate confidence assessments. At each juncture of the decision tree a question is asked of the data that leads to a resulting confidence assessment (**Figure 31**).

SITE NAME	FEATURE NAME	PRESENCE	EXTENT	SPECIES FOCI				BROAD S			
				1	2	3	4	5	6	7	8
				Isles of Scilly: Hanjague to Deep Ledge	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	High	Mod	10	8	10	10
Isles of Scilly: Hanjague to Deep Ledge	Spiny lobster (<i>Palinurus elephas</i>)	Mod	Mod	3	3	3	3	3	0	0	0
Isles of Scilly: Hanjague to Deep Ledge	Sunset cup coral (<i>Leptopsammia pruvoti</i>)	Low	Low	0	0	0	0	0	0	0	0

Figure 30 Extract from the inshore confidence assessment results in **Table 227** showing confidence scores for presence and extent and the associated evidence base behind those decisions

A8.4. Readers are able to follow the decision-making process resulting in confidence scores by using the key (**Table 224**) the decision trees (

A8.5. **Figure 32–Figure 37**) and the inshore results table (**Table 227**).

A8.6. In the example above (**Figure 30**) we have assessed confidence for the first feature as high for presence and moderate for extent. The numbers in the blue boxes in the subsequent columns align with the blue boxes on the decision trees and the key in **Table 224**, and an extract of that table is shown below in **Table 223**

Table 223 Extract of **Table 224**

1	Number of point records that match a feature type within an MCZ
2	Number of point records that are less than six years old
3	Number of point records that are less than 12 years old
4	Number of point records where the collector is considered a specialist
5	Number of point records where the collector is considered a specialist and are also less than six years old

A8.7. For example, we can see that there are 10 point records for that feature in the Marine Conservation Zone (MCZ) and that eight of them are less than six years old and collected by a specialist. If we follow the decision tree designed for determining feature presence confidence scores (**Figure 31**) or technical protocol E we can see that this information produces a high confidence score for the feature presence.

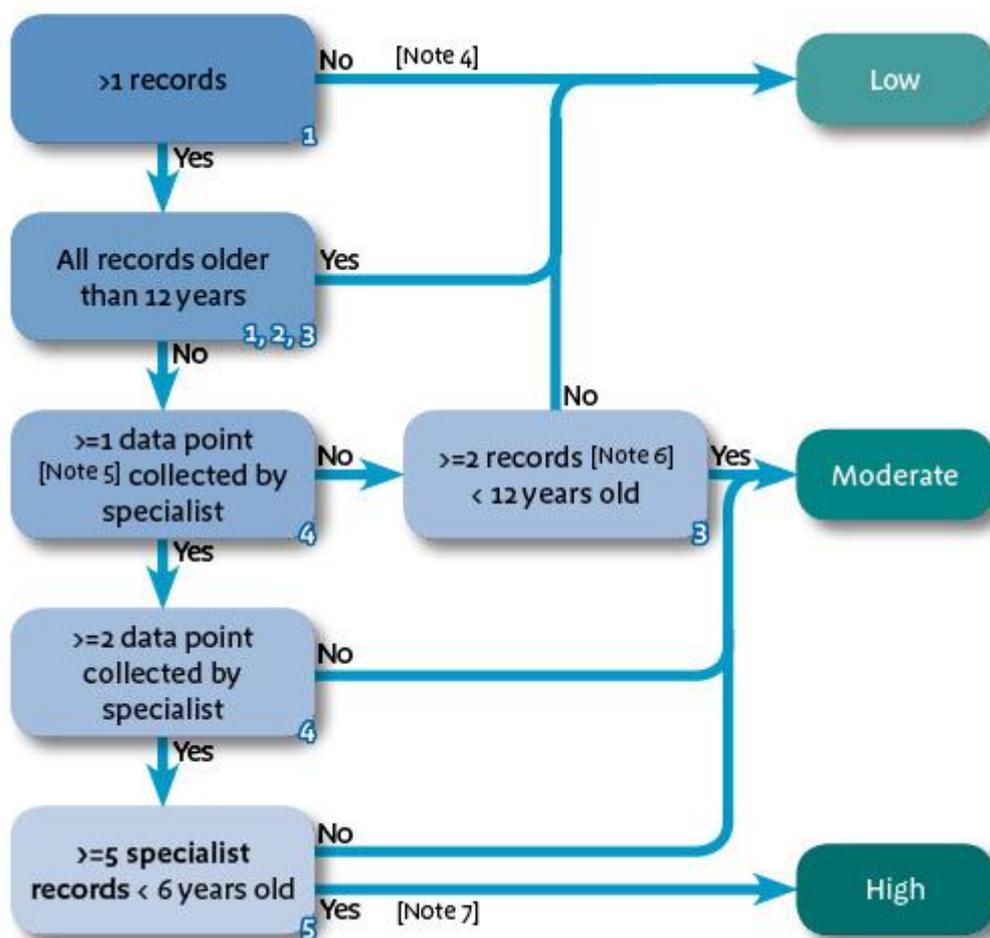


Figure 31 Decision tree for determining species presence

A8.8. To understand where the data were derived from to make this assessment we can follow the inshore assessments in **Table 227** to the last two columns where references for the data used and not used are listed. Data not used are surveys that have occurred since the data cut-off point (10 February 2012) but could be used in the future to better inform our confidence assessments. In this example we used data sources 1, 17 and 18, and descriptions of these data sources are in **Table 225** and **Table 226**.

A8.9. In the fourth row of our example, there is no geographic information data. In such circumstances, Natural England consulted our regional marine specialists, and in this instance, they were able to confirm that the intertidal feature was indeed present and so the confidence assessment was made outside the protocol (**Figure 31**).

ADDITIONAL COMMENTS	DATA USED	DATA NO USED
	1, 17, 18	
	1, 17	
	1, 14, 17, 18, 21, 30	
Intertidal feature where presence confidence is increased to high, by qualified Natural England local advisor with first-hand knowledge.	No GI	

Figure 32 Extract from the inshore confidence assessments in **Table 227** demonstrating the data columns

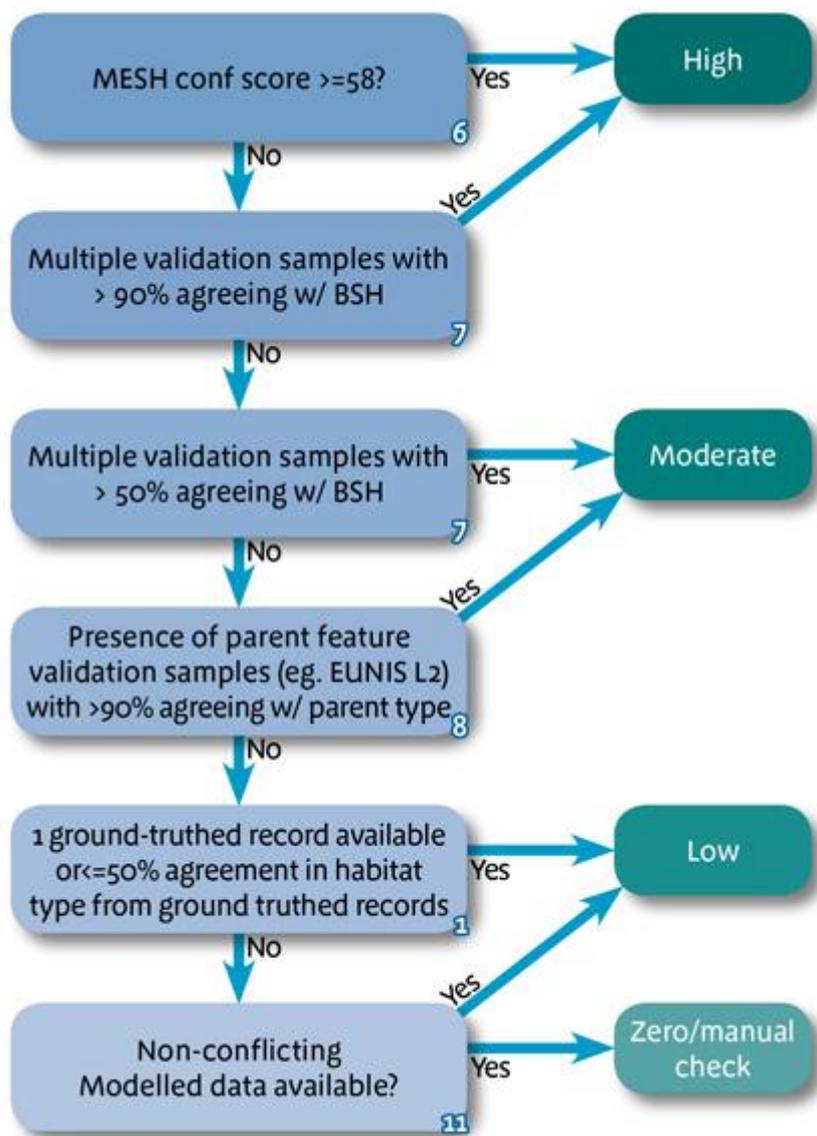


Figure 33 Determining the presence of broad-scale habitats

Note 1 Results that produced high presence scores resulting from MESH maps with scores of more than 58 were manually checked to ensure biological validation coincided with the recommended feature.

Note 2 Multiple samples taken to mean two or more samples.

Note 3 Changed to less than or equal to 50% to allow for instances where exactly 50% of records were in agreement.

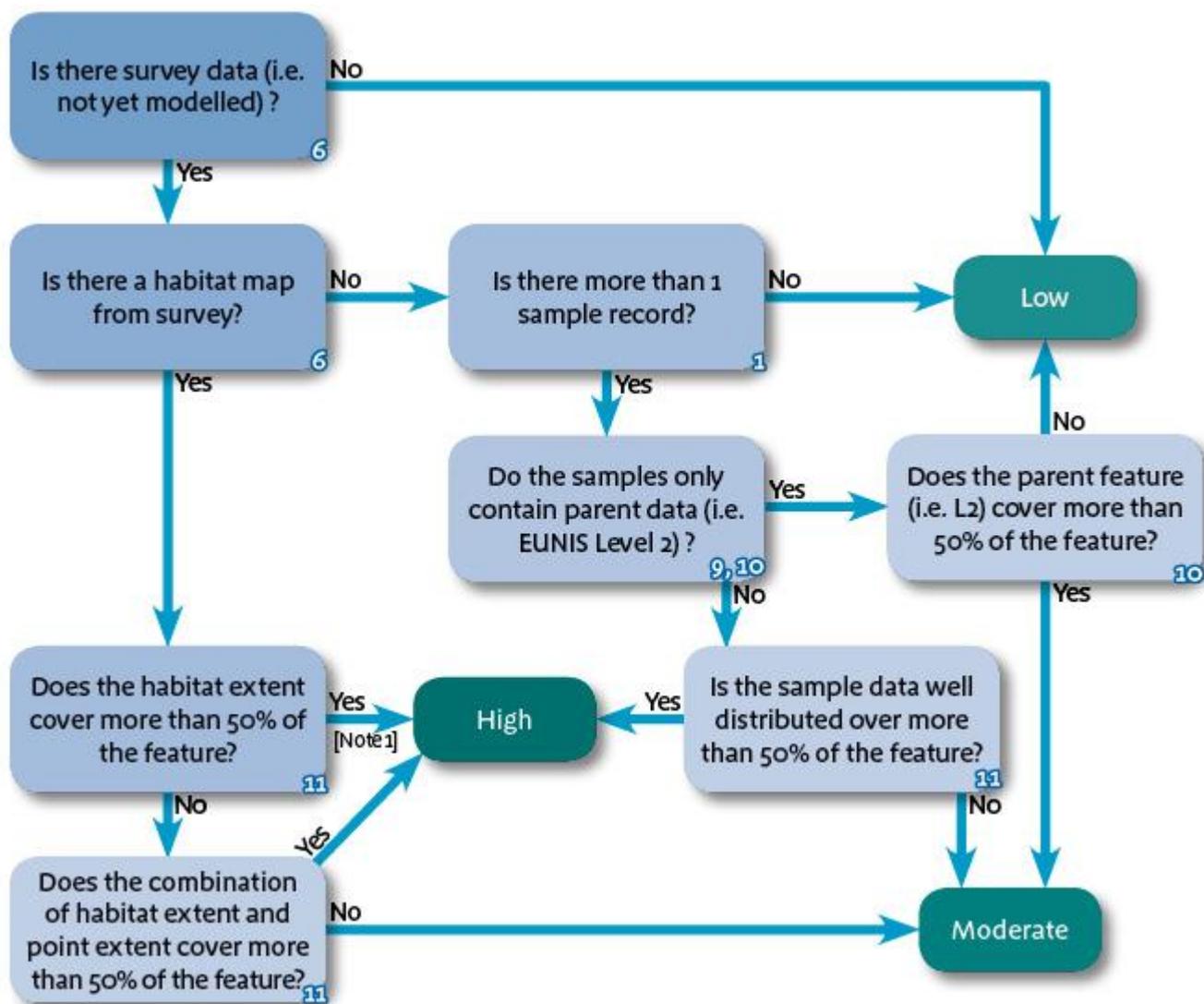


Figure 34 Determining the extent of broad-scale habitats

Note 1 Results that produced high presence scores resulting from MESH maps with >58 scores were manually checked to ensure biological validation coincided with the recommended feature.

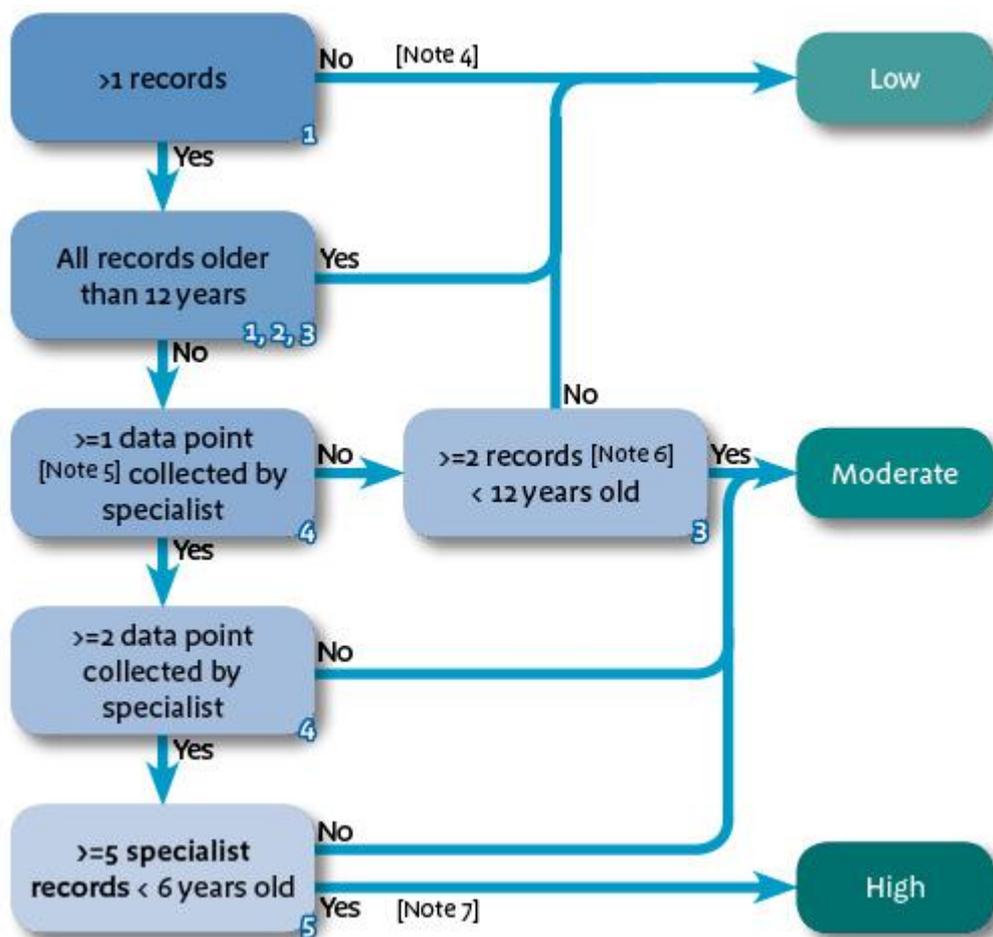


Figure 35 Determining the confidence in species presence

Note 4 The automated process could not detect instances where only anecdotal evidence was available and could not produce a no confidence score where information suggested the species were identified at the wrong location. Such instances were checked manually.

Note 5 Multiple samples taken to mean two or more samples.

Note 6 protocol E states: “All records collected using ground-truthing techniques not specific, or designed for the assessed species and undertaken without supervision by specialists AND data are less than 12 years old.” This has been interpreted as at least two records meeting this standard as opposed to *all* records because this would preclude examples where there were many samples where at least two were less than 12 years old.

Note 7 The protocol states that: “ALL data records must be less than six years old”. Natural England’s interpretation of this is that if there are more than 5 records then this would be sufficient to score a high presense score. The wording as it stands in the protocol would preclude awarding high confidence to any amount of data if there was one record within it that was greater than 6 years old.

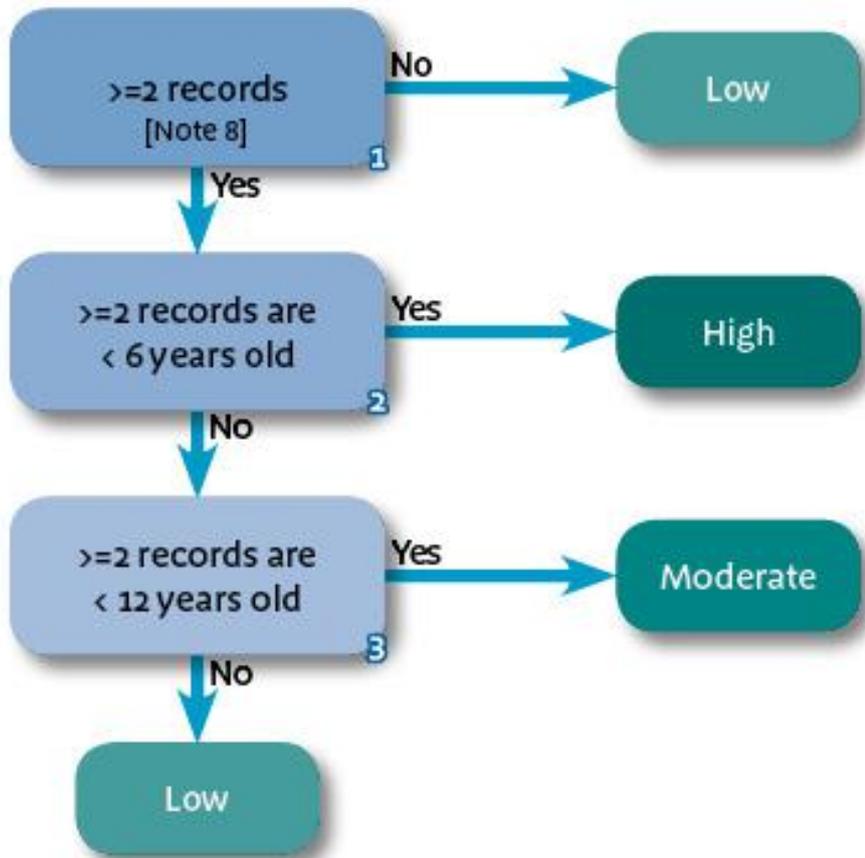


Figure 36 Determining the confidence in species distribution

Note 8 Records taken to mean two or more samples. For the automated process, records that contained information on distribution were considered. During the manual assessment all sample points were used and their distribution throughout the site was used as a means of showing extent.

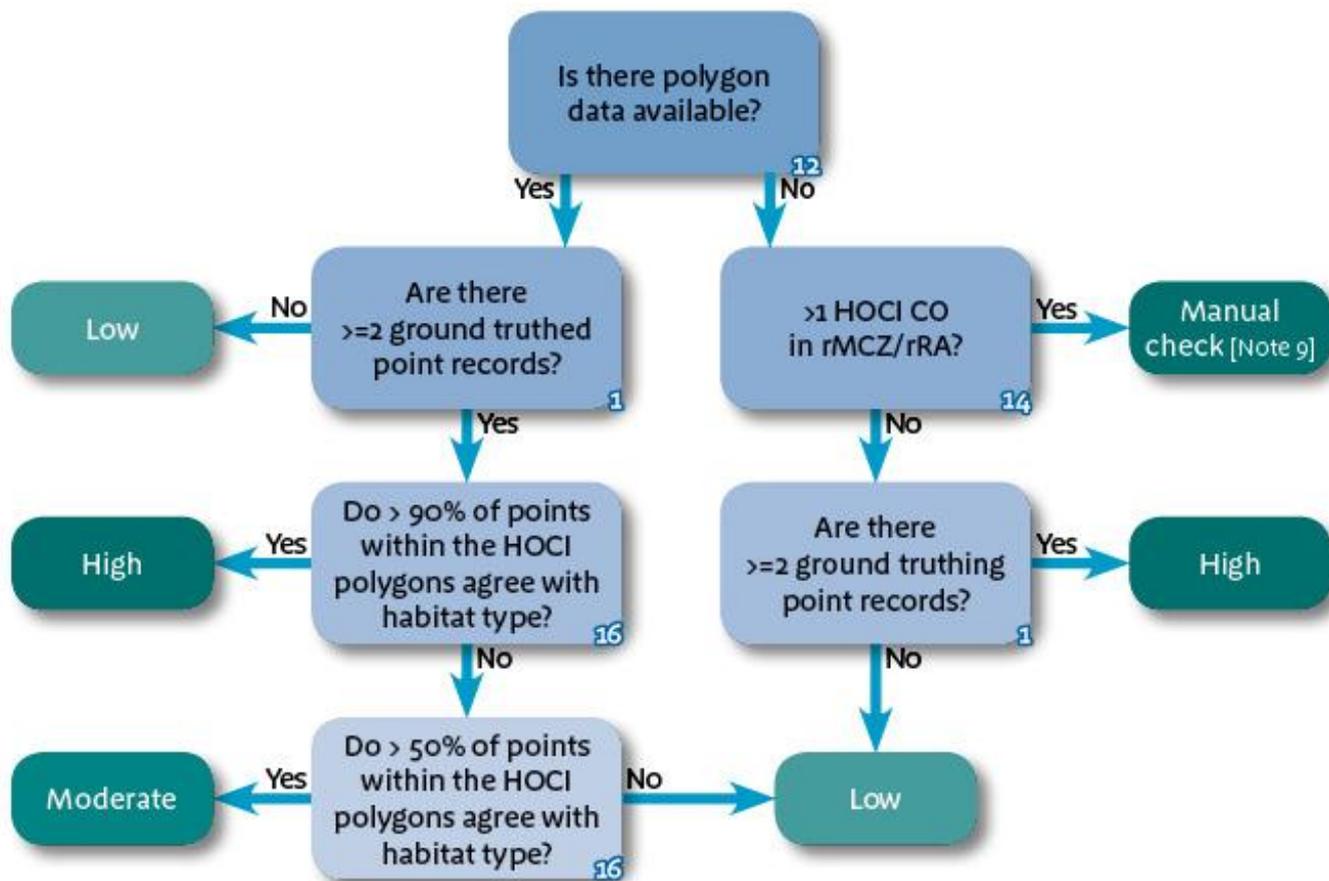


Figure 37 Habitat Feature of Conservation Importance (FOCI) presence (habitats with low temporal variability)

Note 9 In instances where there were no polygon data available and where there was more than one Habitat of Conservation Importance (HOCl) present within the site, a manual assessment was required.

Note 10 In line with protocol E an extra step was included for HOCl that are naturally variable in terms of their temporal stability. The decision tree included steps to account for age of data and restricted the presence score as described in protocol E.

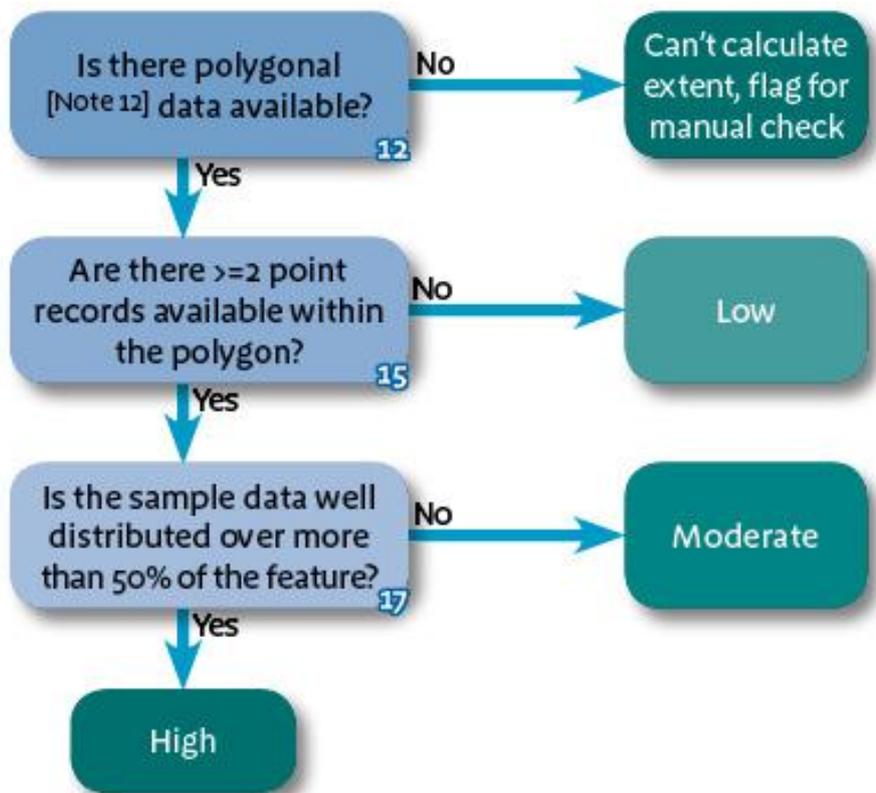


Figure 38 Habitat Feature of Conservation Importance (FOCI) distribution (habitats with low and high temporal variability)

Note 11 Protocol E does not mention data age for habitats that exhibit high temporal variability so extent confidence has been scored the same for both.

Note 12 Polygonal data is considered modelled, that is, there was no ‘habitat map’ available and validation by sample point was carried out.

Table 224 Blue numbered boxes and their descriptions refer to numbered boxes in the decision trees ([Annex 8](#)) and the confidence assessments tables in [Annex 9](#) (inshore only)

Col	Column name	Description
1	Number of matching points (BSH, Species of Conservation Importance (SOCl), Habitat of Conservation Importance (HOCl))	The number of point records that match a feature type within an MCZ
2	Records <6yo	SOCl: the number of point records that are less than six years old (on 10 February 2012)
3	Records <12yo	SOCl: the number of point records that are less than 12 years old (on 10 February 2012)
4	Records collected by a specialist	SOCl: the number of point records where the collector is considered a specialist
5	Records collected by a specialist and <6yo	SOCl: the number of point records where the collector is considered a specialist and are also less than 6 years old
6	Maximum MESH score	BSH: maximum MESH confidence score for all MESH records within the uniqueID
7	%age L3 validation points agreeing with BSH	BSH: the percentage of point records (European Nature Information System (EUNIS level 3)) that are within and agree with the polygonal BSH found in that uniqueID
8	%age L2 validation points agreeing with BSH	BSH: the percentage of point records (EUNIS level 2) that are within and agree with the polygonal BSH found in that uniqueID
9	%age L2 BSH points (area from convex hull) agreeing with map data	BSH: matching EUNIS level 2 records within the uniqueID that have been transformed into a polygon (convex hull). This is the percentage of the convex hull area of the UniqueID area.
10	Does modelled data conflict with feature?	BSH: if there is modelled data, does any of it conflict with the uniqueID's feature component?
11	%age L3 BSH points (area from convex hull and ground-truthed polygonal data) agreeing with map data	BSH: the maximum area covered by ground-truthed polygonal data and area created from matching EUNIS level 3 points (convex hull) as a percentage of the area of the original polygon
12	Does HOCl polygon data exist?	HOCl: is there polygonal data for this feature?
13	Is HOCl temporally variable?	HOCl: is the HOCl considered temporally variable?
14	Are there multiple HOCl in the parent MCZ?	HOCl: are there multiple HOCl in the parent MCZ? (cannot complete an automatic presence confidence check if so)
15	Number of ground-truthing HOCl points within polygon	HOCl: if there are polygonal data available, how many ground-truthing points are found within it?
16	%age of ground-truthing points agreeing with HOCl polygon	HOCl: what percentage of ground-truthing points within the polygonal data agree with the feature?
17	%age coverage of HOCl ground-truthing points (from convex hull) within polygon	HOCl: the maximum area covered by ground-truthing HOCl points (converted to polygon by convex hull) as a percentage of the area of the parent polygon

Annex 9 – Detailed information of the evidence assessment for presence and extent of features as described in [Section 5.1](#)

Table 225 Inshore data used by Natural England

Survey ID	Survey (Identifying Name or Code)	Survey ID	Survey (Identifying Name or Code)	Survey ID	Survey (Identifying Name or Code)
1	Seasearch	31	Dorset Environmental Records Centre data	61	East Coast REC
2	ALSF	32	Dorset Wildlife Trust records	62	Outer Thames Estuary REC
3	Dong Energy Irish Sea survey	33	EA WFD data	63	BSH habitats copied from HOCl dataset
4	Hughes and Atkinson 1997	34	Academic literature	64	EA WIMS data
5	seafish july08	35	Marine Recorder data (JNCC)	65	Additional Marine Recorder data (provided by Ian Saunders, NE)
6	BLOM (EA)	36	Kent Wildlife Trust	66	Other BGS
7	Geomatics Group (EA)	37	NESFC_IECS	67	RSPB foraging bird data and seabird 2000 data
8	Get Mapping (EA)	38	National Contract Data	68	APEI (areas of additional pelagic ecological importance dataset)
9	Humber REC project	39	Seahorse Trust	69	CWT and Exeter university Acoustic monitoring data
10	National Trust	40	Steve Trehwella Survey log 2010	70	Southampton University monitoring poroject Seawatch southwest
11	Envision mapping Ltd., April 2011 (NE)	41	Marine Recorder data (SNH)	71	EA Eel and Smelt Data
12	Norfolk Wildlife Trust	42	OPRU		
13	EA Intertidal data	43	Natural England reports		
14	MB102	44	Cefas record		
15	Marine Recorder data (CCW)	45	South Coast REC		
16	Marine Recorder data (EN)	46	Chichester Harbour Conservancy		
17	Marine Recorder data (LRC)	47	ICES stock assessment		
18	Marine Recorder data (MCS)	48	B108_loS_data_AngieGall		
19	Marine Recorder data (MarLIN)	49	GB#####		
20	Marine Recorder data (NE)	50	CCW reports		
21	MNCR	51	EA Sea Areas Surveys		
22	Shoresearch	52	JNCC polygon data		
23	Kent Group Intertidal Surveys 1986-2003	53	Isles of Scilly Local Group anecdotal knowledge		
24	Marine Recorder data (unknown)	54	BGS derived polygons		
25	Source unknown (grab sample)	55	Anecdotal knowledge		
26	Source unknown	56	Lincolnshire Wildlife Trust data		
27	Marine Recorder data (MBA)	57	English Heritage records		
28	Source unknown (specialist surveys)	58	UKSeaMap		
29	DORIS	59	MESH		
30	Cornwall Wildlife Trust	60	MB102 task 2i		

Table 226 Inshore data not used by Natural England (see section 5.3)

Survey ID	Survey (Identifying Name or Code)	Survey ID	Survey (Identifying Name or Code)	Survey ID	Survey (Identifying Name or Code)
A1	East Riding of Yorkshire Council	A33	MCZ Verification Survey - Hythe Bay	A65	Lizard Point to Lands End (CCO BSW4)
A2	IFCA No take zone monitoring	A34	MCZ Verification Survey - Norris to Ryde	A66	Hartland Point to Lands End
A3	NESFC Prohibited Trawl Area Study	A35	WFD Subtidal Benthic Infauna Survey 2011 - Stour Estuary	A67	Barnstable Bay
A4	IFCA lobster stock assessment data	A36	WFD Subtidal Benthic Infauna Survey 2011 - Orwell Estuary	A68	EMS Eel grass monitoring in Morecombe bay
A5	EA MCZ Verification Survey - Otter Estuary	A37	WFD Subtidal Benthic Infauna Survey 2011 - Dart Estuary	A69	Roosecote Sands eelgrass and ephemeral algae survey
A6	EA MCZ Verification Survey - Upper Fowey & Pont Pill	A38	WFD & NE Subtidal Benthic Infauna Survey 2011 - Solent Maritime SAC	A70	Intertidal survey of Morecambe Bay and the Duddon Estuary
A7	EA MCZ Verification Survey - The Manacles	A39	NE Intertidal Benthic Infauna Survey 2011-12 - Essex Estuaries & Swale	A71	EA Aerial photography
A8	EA MCZ Verification Survey - Mounts Bay	A40	WFD Intertidal Benthic Infauna Survey 2012 - Camel Estuary	A72	NWIFCA Cumbrian shore survey 2011
A9	EA MCZ Verification Survey - Land's End	A41	WFD Subtidal Benthic Infauna Survey 2012 - Whitstable Bay	A73	Littoral Biotope Survey and Condition Assessment of the Lynher Estuary SSSI 2010
A10	EA MCZ Verification Survey - Morte Platform	A42	WFD Intertidal Seagrass Survey 2011 - Solent	A74	Littoral Biotope Survey of the Tamar Tavy & St John's Lake
A11	EA MCZ Verification Survey - Alde/Ore	A43	WFD Transitional Fish Surveys 2011 - Ribble Estuary	A75	Salcombe to Kingsbridge SSSI and Erme Estuary SSSI intertidal biotope survey 2009
A12	EA MCZ Verification Survey - Cromer Shoal	A44	WFD Transitional Fish Surveys 2011 - Lune Estuary	A76	Prawle Point to Plymouth Sound & Eddystone cSAC drop down video survey 2011
A13	EA MCZ Verification Survey - Lincs Belt	A45	WFD Transitional Fish Surveys 2011 - Wyre Estuary	A77	Isles of Scilly SAC Diving Monitoring Studies, 2011
A14	EA MCZ Verification Survey - Holderness Inshore	A46	WFD Transitional Fish Surveys 2011 - Solway	A78	Offshore Special Area of Conservation: Cape Bank. SAC selection assessment
A15	EA MCZ Verification Survey - The Swale	A47	WFD Transitional Fish Surveys 2011 - Dart	A79	Lands End and Cape Bank (pSAC) and Lizard Point (pSAC) offshore survey
A16	EA MCZ Verification Survey - Dover to Deal	A48	WFD Transitional Fish Surveys 2011 - Thames Upper	A80	Voluntary No Anchor Zone Study by SeaStar (Crown Estate)
A17	EA MCZ Verification Survey - Dover to Folkestone	A49	Mapped multibeam imagery of the outer Solway Firth	A81	MAIA study - Anthropogenic impact on Seagrass within Studland Bay
A18	EA MCZ Verification Survey - Hythe Bay	A50	English Nature Solway Firth Sub tidal Scar Ground survey	A82	CWT Looe seagrass mapping
A19	EA MCZ Verification Survey - Beachy Head East	A51	NE Walney Redshank Survey 2011	A83	CWT Porcupine marine survey
A20	EA MCZ Verification Survey - Kingmere	A52	Northumberland County Council/EA LIDAR	A84	CWT Porcupine marine survey
A21	EA MCZ Verification Survey - Utopia	A53	BIG SEA Survey (University of Newcastle upon Tyne	A85	CWT Seasearch
A22	EA MCZ Verification Survey - Bembridge	A54	CCO WP14 Ramsgate to Minnis Bay	A86	Seasearch
A23	EA MCZ Verification Survey - Norris to Ryde	A55	Thames Estuary and Dover Strait RRS (Pt 2)	A87	NE Isles of Scilly intertidal condition monitoring
A24	EA MCZ Verification Survey - Yarmouth to Cowes	A56	Margate Road Inner	A88	Solent Maritime SAC intertidal survey
A25	EA MCZ Verification Survey - Allonby Bay	A57	Dover Strait Routine Resurvey Blocks 1-4	A89	Baseline Survey of Inner Dowsing, Race Bank and North Ridge cSAC, and of Haisborough, Hammond and Winterton cSAC
A26	MCZ Verification Survey - Orford Inshore	A58	Ramsgate Dungeness	A90	Outer Bristol Channel Marine Habitat Study
A27	MCZ Verification Survey - Cromer Shoal	A59	Dover Strait TSS	A91	Atlantic Array Benthic Ecology Characterisation Report
A28	MCZ Verification Survey - Lincs Belt	A60	Eastern Approaches to the Nab Channel	A92	Isles of Scilly Zostera marina monitoring
A29	MCZ Verification Survey - Folkestone Pomerania	A61	CCO Isle of Wight surveys	A93	Offshore monitoring of Annex 1 reef habitat present within the IOS SAC
A30	MCZ Verification Survey - Beachy Head East	A62	NE South Wight Multibeam Survey	A94	Lizard Point cSAC and Land's End & Cape Bank cSAC baseline surveys
A31	MCZ Verification Survey - Bembridge	A63	NE Start Point to Plymouth Sound multibeam survey	A95	WFD Operational Benthic Infauna Survey - Medway Estuary
A32	MCZ Verification Survey - Yarmouth to Cowes	A64	W Approaches to English Channel		

Table 227 Inshore confidence assessments

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	ADDITIONAL COMMENTS AND JUSTIFICATION	DATA USED	DATA NOT USED
					AUDIT																			
					SPECIES FOCI					BROAD SCALE HABITATS							HABITAT FOCI							
					Number of matching points	Records < 6yo	Records < 12yo	Records collected by a specialist	Records collected by a specialist & < 6yo	Maximum MESH score	%age L3 validation points agreeing with BSH	%age L2 validation points agreeing with BSH	%age L2 BSH points (area from convex hull) agreeing with map data	Does modelled data potentially conflict with feature	%age L3 BSH points (area from convex hull) agreed ground truthed polygonal data) agreeing with map data	Does HOCI polygon data exist	Is HOCI temporally variable	Are there multiple HOCI in the parent MCZ	Number of ground truthing HOCI points within polygon	%age of ground truthing points agreeing with HOCI polygon	% coverage of HOCI ground truthing points (from convex hull) within polygon			
Balanced Seas	Abbots Hall Farm	Lagoon sea slug (<i>Tenellia adpersa</i>)	Low	Low	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A1, A2,
Balanced Seas	Beachy Head East	High energy intertidal rock	Mod	Mod	0	0	0	0	0	1							0	0	0	0	0	0	0	60
Balanced Seas	Beachy Head East	Intertidal coarse sediment	Mod	Mod	0	0	0	0	0	1			yes				0	0	0	0	0	0	0	60
Balanced Seas	Beachy Head East	Intertidal mixed sediments	Mod	Mod	0	0	0	0	0	1			yes				0	0	0	0	0	0	0	60
Balanced Seas	Beachy Head East	Blue Mussel Beds	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	yes	no	no	0	0	26
Balanced Seas	Beachy Head East	Littoral chalk communities	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	no	no	0	0	21, 26
Balanced Seas	Beachy Head East	Peat and clay exposures	Mod	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	no	no	0	0	26
Balanced Seas	Beachy Head East	Ross worm reefs (<i>Sabellaria spinulosa</i>)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	yes	no	no	0	0	26
Balanced Seas	Beachy Head East	Subtidal chalk	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	no	no	0	0	26
Balanced Seas	Beachy Head East	European eel (<i>Anguilla anguilla</i>)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71
Balanced Seas	Beachy Head East	Native oyster (<i>Ostrea edulis</i>)	Low	Low	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Balanced Seas	Beachy Head East	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	Low	Low	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
Balanced Seas	Beachy Head East	Cirralittoral rock and thin mixed sediment	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Balanced Seas	Beachy Head East	Infralittoral rock and thin mixed sediment	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	A19,
Balanced Seas	Beachy Head East	Infralittoral rock and thin sandy sediment	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Balanced Seas	Beachy Head West	Intertidal coarse sediment	Mod	Low	0	0	0	0	0	1			yes				0	0	0	0	0	0	0	60
Balanced Seas	Beachy Head West	Subtidal mixed sediments	Low	Low	0	0	0	0	0	69			yes			100	0	0	0	0	0	0	0	1, 45, 59
Balanced Seas	Beachy Head West	Subtidal mud	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Balanced Seas	Beachy Head West	Subtidal sand	Low	Low	0	0	0	0	0	86	31	42	40	yes		98	0	0	0	0	0	0	0	1, 2, 58, 59
Balanced Seas	Beachy Head West	Blue Mussel Beds	Mod	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	yes	no	no	0	0	26
Balanced Seas	Beachy Head West	Littoral chalk communities	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	no	no	0	21, 26
Balanced Seas	Beachy Head West	Subtidal chalk	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	no	no	0	21, 26
Balanced Seas	Beachy Head West	European eel (<i>Anguilla anguilla</i>)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71
Balanced Seas	Beachy Head West	Long snouted seahorse (<i>Hippocampus guttulatus</i>)	Low	Low	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
Balanced Seas	Beachy Head West	Native oyster (<i>Ostrea edulis</i>)	High	High	22	5	14	22	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1, 18, 21
Balanced Seas	Beachy Head West	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	Mod	Mod	3	3	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18, 38, 39
Balanced Seas	Beachy Head West	Infralittoral rock and thin mixed sediment	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Balanced Seas	Beachy Head West	Infralittoral muddy sand	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Balanced Seas	Beachy Head West	Infralittoral rock and thin sandy sediment	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Balanced Seas	Beachy Head West	Infralittoral sandy mud	Mod	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Balanced Seas	Belle Tout to Beachy Head		Low	Low	0	0	0	0	0	0			yes				0	0	0	0	0	0	0	58
Balanced Seas	Belle Tout to Beachy Head Lighthouse	Moderate energy cirralittoral rock	Mod	Mod	0	0	0	0	0	62			yes			100	0	0	0	0	0	0	0	59
Balanced Seas	Belle Tout to Beachy Head Lighthouse	Moderate energy infralittoral rock	Mod	Mod	0	0	0	0	0	62			yes			100	0	0	0	0	0	0	0	59
Balanced Seas	Belle Tout to Beachy Head		High	High	0	0	0	0	0	1			yes				0	0	0	0	0	0	0	60
Balanced Seas	Belle Tout to Beachy Head		Mod	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	no	no	0	0	26

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI									
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Balanced Seas	Belle Tout to Beachy Head Lighthouse	Moderate energy infralittoral rock plus thin sandy sediment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MCZ boundary extends to mean low water only (BS final recommendations) - therefore by definition there will be no infralittoral rock present in this site				
Balanced Seas	Bembridge	Subtidal mixed sediments	High	High	0	0	0	0	0	81	0	100	yes	100	0	0	0	0	0		45, 59, 63	A22, A31, A61, A62		
Balanced Seas	Bembridge	Subtidal mud	Low	Low	0	0	0	0	0	0			yes		0	0	0	0	0		58, 63, 64	A22, A31, A61, A62		
Balanced Seas	Bembridge	Subtidal sand	High	High	0	0	0	0	0	81			yes	96	0	0	0	0	0		45, 58, 59	A22, A31, A38, A61, A62		
Balanced Seas	Bembridge	Maerl beds	High	Low	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0		26			
Balanced Seas	Bembridge	Mud habitats in deep water	Mod	Mod	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0		21	A22, A61, A62		
Balanced Seas	Bembridge	Native oyster beds (<i>Ostrea edulis</i>)	High	Mod	0	0	0	0	0	0	0	0	0	0	no	yes	yes	0	0		1, 14, 17, 19			
Balanced Seas	Bembridge	Ross worm reefs (<i>Sabellaria spinulosa</i>)	Mod	Mod	0	0	0	0	0	0	0	0	0	0	yes	yes	yes	0	0	Numerous point records of feature. Validation points cover only part of the underlying modelled data so Mod extent confidence	26	A61		
Balanced Seas	Bembridge	Sea pens and burrowing megafauna	Mod	Low	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0		21	A22, A61, A62		
Balanced Seas	Bembridge	Seagrass beds	High	Mod	0	0	0	0	0	0	0	0	0	0	yes	yes	yes	0	0		26			
Balanced Seas	Bembridge	Lagoon sand shrimp (<i>Gammarus insensibilis</i>)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Anecdotal evidence only.	No GI			
Balanced Seas	Bembridge	Long snouted seahorse (<i>Hippocampus guttulatus</i>)	Low	Low	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0		38			
Balanced Seas	Bembridge	Native oyster (<i>Ostrea edulis</i>)	High	High	24	22	22	24	22	0	0	0	0	0	0	0	0	0	0		1, 14, 17, 19			
Balanced Seas	Bembridge	Peacock's tail (<i>Padina pavonica</i>)	High	High	80	76	76	80	76	0	0	0	0	0	0	0	0	0	0		14, 21, 24, 28			
Balanced Seas	Bembridge	Sea snail (<i>Paludineella littorina</i>)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Anecdotal evidence only.	No GI			
Balanced Seas	Bembridge	Short snouted seahorse (<i>Hippocampus hippocampus</i>)	Mod	Mod	5	4	5	3	2	0	0	0	0	0	0	0	0	0	0		19, 38, 39			
Balanced Seas	Bembridge	Stalked jellyfish (<i>Halicystus auricula</i>)	High	Mod	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0		17			
Balanced Seas	Bembridge	Starlet sea anemone (<i>Nematostella vectensis</i>)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Only one record, from 1987	No GI			
Balanced Seas	Bembridge	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	Mod	Mod	4	0	4	4	0	0	0	0	0	0	0	0	0	0	0		25			
Balanced Seas	Blackwater, Crouch, Roach and Colne Estuary	High energy intertidal rock	Low	Low	0	0	0	0	0	42			yes		0	0	0	0	0	Low confidence maps to determine extent.	60, 65			
Balanced Seas	Blackwater, Crouch, Roach and Colne Estuary	Intertidal mixed sediments	High	Mod	0	0	0	0	0	42	50	100	yes		0	0	0	0	0		60, 65	A39		
Balanced Seas	Blackwater, Crouch, Roach and Colne Estuary	Intertidal mud	High	High	0	0	0	0	0	42			yes		0	0	0	0	0	Overall high confidence in presence and extent, due to abundance of high confidence polygon maps and some EA survey data to also corroborate.	60			
Balanced Seas	Blackwater, Crouch, Roach and Colne Estuary	Native oyster beds (<i>Ostrea edulis</i>)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		19, 21			
Balanced Seas	Blackwater, Crouch, Roach and Colne Estuary	European eel (<i>Anguilla anguilla</i>)	Mod	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Four records in each area (n=8), 5 of which are over 6 years old	71	A71		
Balanced Seas	Blackwater, Crouch, Roach and Colne Estuary	Lagoon sea slug (<i>Tenellia adpersa</i>)	Mod	Mod	3	0	2	3	0	0	0	0	0	0	0	0	0	0	0		14, 19			

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI									
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Balanced Seas	Dover to Folkestone	Moderate energy intertidal rock	High	Low	0	0	0	0	0	0	37	0	0	yes	0	0	0	0	0	0	Detailed biotope mapping which has been ground truth with some photos from Kent Wildlife trust. This is only recent data that has been submitted to ABPmer, but this data is a good justification of the presence of feature	60		
Balanced Seas	Dover to Folkestone	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	100	yes	0	0	0	0	0	0		58	A17, A58	
Balanced Seas	Dover to Folkestone	Blue Mussel Beds	Mod	Low	0	0	0	0	0	0	0	0	0	0	0	yes	yes	yes	0	0		26		
Balanced Seas	Dover to Folkestone	Intertidal under boulder communities	High	Mod	0	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0		24, 36		
Balanced Seas	Dover to Folkestone	Littoral chalk communities	High	High	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	0	0		21, 26		
Balanced Seas	Dover to Folkestone	Peat and clay exposures	High	Mod	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	0	0		26		
Balanced Seas	Dover to Folkestone	Ross worm reefs (Sabellaria spinulosa)	Mod	Low	0	0	0	0	0	0	0	0	0	0	0	yes	yes	yes	0	0		26		
Balanced Seas	Dover to Folkestone	Subtidal chalk	High	Low	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	0	0	Comments	21, 26	A17, A58	
Balanced Seas	Dover to Folkestone	Subtidal sands and gravels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	0	0	Only anecdotal information available.	66	A17, A58	
Balanced Seas	Dover to Folkestone	Native oyster (Ostrea edulis)	High	High	6	5	6	6	5	0	0	0	0	0	0	0	0	0	0	0		1, 17, 22, 24		
Balanced Seas	Dover to Folkestone	Short snouted seahorse (Hippocampus hippocampus)	Mod	Mod	3	3	3	2	2	0	0	0	0	0	0	0	0	0	0	0		24, 39		
Balanced Seas	Dover to Folkestone	Folkestone Warren	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Although high MESH, modelled data with numerous conflicting ground truth points	No GI		
Balanced Seas	Fareham Creek	Native oyster beds (Ostrea edulis)	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Modelled data and no ground truthing points	No GI		
Balanced Seas	Fareham Creek	Sheltered muddy gravels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	no	no	no	0	0	High MESH polygon data for moderate energy infralittoral rock contained fully within MCZ boundary.	33		
Balanced Seas	Fareham Creek	Native oyster (Ostrea edulis)	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photos - Intertidal feature presence confidence increased to high.	No GI		
Balanced Seas	Flying Fortress	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	REC data that contradicts other existing data. Further survey required to clarify presence and extent.	58	A29		
Balanced Seas	Flying Fortress	Honeycomb worm reefs (Sabellaria alveolata)	Low	Low	0	0	0	0	0	0	0	0	0	0	yes	yes	no	0	0	Regional Environmental Characterisation survey data contradicts other existing data. Further survey required to clarify presence and extent.	26			
Balanced Seas	Flying Fortress	Ross worm reefs (Sabellaria spinulosa)	Low	Low	0	0	0	0	0	0	0	0	0	0	yes	yes	no	0	0	Only anecdotal information available.	26			
Balanced Seas	Folkestone Pomerania	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	A29		
Balanced Seas	Folkestone Pomerania	Subtidal coarse sediment	Mod	Mod	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	Modelled data polygon and five well-spaced point records of parent feature (from EA West Varne) (some point records of unclassified habitats (n=4) within the polygon)	58	A29		
Balanced Seas	Folkestone Pomerania	Subtidal sand	Mod	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	A29		
Balanced Seas	Folkestone Pomerania	Blue Mussel Beds	Low	Low	0	0	0	0	0	0	0	0	0	0	yes	yes	no	0	0		26			
Balanced Seas	Folkestone Pomerania	Fragile sponge & anthozoan communities on subtidal rocky habitats	Mod	Low	0	0	0	0	0	0	0	0	0	0	no	no	no	0	0	Presence confidence increased to moderate due to photographic evidence from Natural England local marine advisor.	1			
Balanced Seas	Folkestone Pomerania	Honeycomb worm reefs (Sabellaria alveolata)	Low	Low	0	0	0	0	0	0	0	0	0	0	yes	yes	no	0	0		26			
Balanced Seas	Folkestone Pomerania	Ross worm reefs (Sabellaria spinulosa)	Mod	Mod	0	0	0	0	0	0	0	0	0	0	yes	yes	no	0	0		26			
Balanced Seas	Folkestone Pomerania	Subtidal sands and gravels	Low	Low	0	0	0	0	0	0	0	0	0	0	yes	no	no	0	0		66			
Balanced Seas	Goodwin Knoll	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	Modelled data only with no validation points.	58	A57		
Balanced Seas	Goodwin Knoll	Subtidal sand	Low	Low	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0		58	A57		
Balanced Seas	Goodwin Sands	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	A57		
Balanced Seas	Goodwin Sands	Moderate energy infralittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	A57		
Balanced Seas	Goodwin Sands	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	Modelled data only with no validation points.	58	A57		
Balanced Seas	Goodwin Sands	Subtidal sand	Low	Low	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	Modelled data only with no validation points.	58	A57		
Balanced Seas	Goodwin Sands	Blue Mussel Beds	Low	Low	0	0	0	0	0	0	0	0	0	0	yes	yes	no	0	0		26			

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED				
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI													
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17							
Balanced Seas	Harwich Haven	Intertidal coarse sediment	High	Mod	0	0	0	0	0	1																Presence and extent of feature correct in approximately 60%, however approx 40% of feature disagrees with Unicomarine biotopes for littoral rock (LR.FLR.EphX and LR.LLR.F.Asc)	60	
Balanced Seas	Harwich Haven	Low energy intertidal rock	Mod	Mod	0	0	0	0	0	42																Presence and extent of feature correct in approximately 70%, however approx 30% of feature disagrees with Unicomarine biotopes for Sabellaria alveolata reef (LS.LBR.Sab.Alv) and littoral sand (LS.Lsa.MoSa.AmSco)	60	
Balanced Seas	Harwich Haven	Estuarine rocky habitats	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		No GI	
Balanced Seas	Harwich Haven	Honeycomb worm reefs (Sabellaria alveolata)	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		26	
Balanced Seas	Harwich Haven	Ross worm reefs (Sabellaria spinulosa)	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		26	
Balanced Seas	Harwich Haven	Subtidal sands and gravels	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		26	
Balanced Seas	Holehaven Creek	Intertidal mud	High	Mod	0	0	0	0	0	1	100	100														Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photos - Intertidal feature presence confidence increased to high. Overlaps with SSSI with feature Intertidal mud, condition assessment confirms present.	60, 64	
Balanced Seas	Holehaven Creek	Intertidal sand and muddy sand	Mod	Low	0	0	0	0	0	1																Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to medium.	60	
Balanced Seas	Holehaven Creek	Subtidal mud	Low	Low	0	0	0	0	0	0																Modelled data only with no validation points.	58	
Balanced Seas	Holehaven Creek	Sheltered muddy gravels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		28		
Balanced Seas	Hythe Bay	Subtidal mud	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Multiple survey points show presence and extent of feature.	63	A18, A33, A58
Balanced Seas	Hythe Bay	Mud habitats in deep water	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Multiple survey shows presence of mud habitat - EUNIS levels 4 and 5	25	A18, A58
Balanced Seas	Hythe Bay	Sea pens and burrowing megafauna	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Although high MESH, modelled data with numerous conflicting ground truth points	25	A18
Balanced Seas	Hythe Flats	Subtidal mud	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Photo evidence of this feature within the site.	No GI	A33
Balanced Seas	Hythe Flats	Mud habitats in deep water	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Detailed biotope mapping which has been ground truth with some photos from Kent Wildlife trust. This is only recent data that has been submitted to ABPmer, but this data is a good justification of the presence of feature	No GI	
Balanced Seas	Hythe Flats	Sea pens and burrowing megafauna	Mod	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Detailed biotope mapping which has been ground truth with some photos from Kent Wildlife trust. This is only recent data that has been submitted to ABPmer, but this data is a good justification of the presence of feature	No GI	
Balanced Seas	Kingmere	Subtidal chalk	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21, 26	A20
Balanced Seas	Kingmere	Native oyster (Ostrea edulis)	Low	Low	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21	
Balanced Seas	Kingmere	Black seabream (Spondyliosoma cantharus)	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Data collected by local IFCA project and Seasearch has shown a clear boundary of nesting and breeding habitat	No GI	
Balanced Seas	Kingmere	Infralittoral rock and thin mixed sediment	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Modelled data with no ground truth points	60	
Balanced Seas	King's Quay	Intertidal coarse sediment	Low	Low	0	0	0	0	0	1																Low confidence maps to determine extent.	60	
Balanced Seas	King's Quay	Intertidal mixed sediments	Low	Low	0	0	0	0	0	1																Low confidence maps to determine extent.	60	
Balanced Seas	King's Quay	Intertidal mud	High	High	0	0	0	0	0	66																Modelled data and no ground truthing points	59, 60	
Balanced Seas	King's Quay	Intertidal sand and muddy sand	High	High	0	0	0	0	0	66																	59	
Balanced Seas	King's Quay	Subtidal mud	Low	Low	0	0	0	0	0	0																Modelled data only. Multiple records from last 15 years suggesting sea grass beds (A2.6), although maybe issues with translation? (i.e. not actually beds etc)	58	A34
Balanced Seas	King's Quay	Seagrass beds	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		26		
Balanced Seas	Medway Estuary	Intertidal mixed sediments	Low	Low	0	0	0	0	0	1																Low confidence maps to determine extent.	60, 63	
Balanced Seas	Medway Estuary	Intertidal sand and muddy sand	Mod	Mod	0	0	0	0	0	42																Extent polygon supported by clustered EA biodiversity data samples - 11 positive A2.2 samples and approx 10 A2.3 (parent feature), however eight samples of A5.2 so need to assess subtidal/intertidal extent, and also whether habitat is predominantly intertidal sand and muddy sand, or intertidal mud.	60	
Balanced Seas	Medway Estuary	Low energy intertidal rock	Low	Low	0	0	0	0	0	42	0	0															60	
Balanced Seas	Medway Estuary	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0																Modelled data - three suggested habitat patches with two positive A5.3 samples in one of them (EA data)	58	A95

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED			
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI												
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17						
Balanced Seas	Westgate Promontory	Subtidal sand	Mod	Mod	0	0	0	0	0	63					yes		28	0	0	0	0	0	0			58, 59	
Balanced Seas	Westgate Promontory	Littoral chalk communities	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			26		
Balanced Seas	Westgate Promontory	Subtidal sands and gravels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			26		
Balanced Seas	Westgate Promontory	Stalked jellyfish (Haliclystus auricula)	Low	Low	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0			21		
Balanced Seas	Wootton Old Mill Pond	Tentacled lagoon-worm (Alkmaria romijni)	Low	Low	14	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0			25		
Balanced Seas	Yarmouth to Cowes	Intertidal coarse sediment	High	High	0	0	0	0	0	1					yes		0	0	0	0	0	0	0	Numerous recent point records of feature		60	
Balanced Seas	Yarmouth to Cowes	Low energy intertidal rock	High	High	0	0	0	0	0	1					yes		0	0	0	0	0	0	0	Numerous recent point records of feature		60	
Balanced Seas	Yarmouth to Cowes	Moderate energy infralittoral rock	High	Mod	0	0	0	0	0	0				yes		0	0	0	0	0	0	0	High MESH polygon data supported by ground truth records		58	A24, A32, A60	
Balanced Seas	Yarmouth to Cowes	Intertidal under boulder communities	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			21	A88	
Balanced Seas	Yarmouth to Cowes	Native oyster beds (Ostrea edulis)	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Eighteen data points within last 6 years, therefore H confidence		14, 21, 24		
Balanced Seas	Yarmouth to Cowes	Peat and clay exposures	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			1, 21, 26	A88	
Balanced Seas	Yarmouth to Cowes	Ross worm reefs (Sabellaria spinulosa)	Mod	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			26		
Balanced Seas	Yarmouth to Cowes	Seagrass beds	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			26	A88	
Balanced Seas	Yarmouth to Cowes	Lagoon sand shrimp (Gammarus insensibilis)	Low	Low	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			14, 26		
Balanced Seas	Yarmouth to Cowes	Native oyster (Ostrea edulis)	High	High	30	24	24	30	24	0	0	0	0	0	0	0	0	0	0	0	0	0			14, 21, 24		
Balanced Seas	Yarmouth to Cowes	Bouldnor Cliff geological feature	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	East Sussex Chalk Shore SSSI - Intertidal biotope Report V1.1 Draft Jan 2010 - report confirms presence of biotopes associated with this BSH				
Finding Sanctuary	Axe Estuary	Coastal saltmarshes and saline reedbeds	High	Mod	0	0	0	0	0	0				yes		0	0	0	0	0	0	0	High MESH polygon data supported by ground truth records reduced confidence as evidence suggests a muddy sand environment rather than a sandy mud environment		13		
Finding Sanctuary	Axe Estuary	Intertidal coarse sediment	Mod	Low	0	0	0	0	0	1				yes		0	0	0	0	0	0	0	Modelled data only with no validation points.		13, 60		
Finding Sanctuary	Axe Estuary	Intertidal mixed sediments	Low	Low	0	0	0	0	0	42				yes		0	0	0	0	0	0	0			60		
Finding Sanctuary	Axe Estuary	Intertidal mud	High	Low	0	0	0	0	0	42	100	100	0	0	0	0	0	0	0	0	0	0			13, 60, 64		
Finding Sanctuary	Axe Estuary	Subtidal mixed sediments	Low	Low	0	0	0	0	0	0				yes		0	0	0	0	0	0	0	Low confidence map, supported by 2006 littoral chalk survey samples covering approx 60% of polygon.		58		
Finding Sanctuary	Axe Estuary	European eel (Anguilla anguilla)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			71		
Finding Sanctuary	Bideford to Foreland Point	High energy circalittoral rock	Low	Low	0	0	0	0	0	0							0	0	0	0	0	0	MCZ boundary extends to mean low water only (BS final recommendations) - therefore by definition there will be no circalittoral rock present in this site		58	A67	
Finding Sanctuary	Bideford to Foreland Point	High energy infralittoral rock	Low	Low	0	0	0	0	0	0				yes		0	0	0	0	0	0	0	MCZ boundary extends to mean low water only (BS final recommendations) - therefore by definition there will be no infralittoral rock present in this site		58, 65	A67	
Finding Sanctuary	Bideford to Foreland Point	High energy intertidal rock	High	Low	0	0	0	0	0	1				yes		0	0	0	0	0	0	0	0			60	
Finding Sanctuary	Bideford to Foreland Point	Intertidal coarse sediment	Mod	Low	0	0	0	0	0	1				yes		0	0	0	0	0	0	0	0	High MESH polygon data supported by ground truth records reduced confidence as evidence suggests a muddy sand environment rather than a sandy mud environment		13, 60	
Finding Sanctuary	Bideford to Foreland Point	Intertidal mixed sediments	Mod	Low	0	0	0	0	0	1				yes		0	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M		60	
Finding Sanctuary	Bideford to Foreland Point	Intertidal mud	Mod	Low	0	0	0	0	0	1				yes		0	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M		13, 60	
Finding Sanctuary	Bideford to Foreland Point	Intertidal sand and muddy sand	Mod	Low	0	0	0	0	0	42				yes		0	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M		60	

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NOT USED				
					SPECIES FOCI					BROAD SCALE HABITATS						HABITAT FOCI												
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17							
Finding Sanctuary	Bideford to Foreland Point	Low energy intertidal rock	Mod	Low	0	0	0	0	0	0	42							yes	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos - M	60	
Finding Sanctuary	Bideford to Foreland Point	Moderate energy infralittoral rock	Low	Low	0	0	0	0	0	0	0								0	0	0	0	0	0	0		58	A67
Finding Sanctuary	Bideford to Foreland Point	Moderate energy intertidal rock	High	Low	0	0	0	0	0	0	1							yes	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor including geo-referenced photos - H	60	
Finding Sanctuary	Bideford to Foreland Point	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0		yes	0	0	0	0	0	0	0		58	A67
Finding Sanctuary	Bideford to Foreland Point	Pink sea-fan (Eunicella verrucosa)	Mod	Mod	6	0	4	6	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	Modelled data only with no validation points.	17, 21	
Finding Sanctuary	Bideford to Foreland Point	Sea snail (Paludinella littorina)	Low	Low	1	0	0	1	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0		14	
Finding Sanctuary	Bideford to Foreland Point	Grey seal (Halichoerus grypus)	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	This is a haul out site with supporting evidence of pupping	17	
Finding Sanctuary	Bideford to Foreland Point	Guillemot (Uria aalge)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	Adjacent SSSI for protection of feature, with associated data for presence and clear indications of site importance.	67	
Finding Sanctuary	Bideford to Foreland Point	Harbour porpoise (Phocoena phocoena)	High	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	Extensive datasets show presence but extent is more difficult to define as data is site specific	18, 17	
Finding Sanctuary	Bideford to Foreland Point	Razorbill (Alca torda)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	Adjacent SSSI for protection of feature, with associated data for presence and clear indications of site importance.	67	
Finding Sanctuary	Broad Bench to Kimmeridge Bay	Intertidal coarse sediment	High	High	0	0	0	0	0	0	1						yes	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H	13, 60		
Finding Sanctuary	Broad Bench to Kimmeridge Bay	Moderate energy intertidal rock	Mod	Mod	0	0	0	0	0	0	1						yes	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor but uncertain of exposure level so moderate presence.	60		
Finding Sanctuary	Broad Bench to Kimmeridge Bay	Peacock's tail (Padina pavonica)	Mod	Low	3	0	1	3	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0		21, 32	
Finding Sanctuary	Broad Bench to Kimmeridge Bay	Sea snail (Paludinella littorina)	Low	Low	1	1	1	1	1	0	0	0	0	0	0	0			0	0	0	0	0	0	0		40	
Finding Sanctuary	Camel Estuary	Coastal saltmarshes and saline reedbeds	High	Low	0	0	0	0	0	0	0						yes	0	0	0	0	0	0	0		13		
Finding Sanctuary	Camel Estuary	Intertidal coarse sediment	High	Low	0	0	0	0	0	0	0						yes	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H	13		
Finding Sanctuary	Camel Estuary	Intertidal mud	High	Mod	0	0	0	0	0	42	63	73	29	yes	29	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H	13, 60, 64	A40	
Finding Sanctuary	Camel Estuary	Low energy intertidal rock	High	Mod	0	0	0	0	0	42	0	0	0	yes	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H	60			
Finding Sanctuary	Camel Estuary	Estuarine rocky habitats	High	Low	0	0	0	0	0	0	0	0	0	0	0	0			no	no	no	0	0	0	0		21	
Finding Sanctuary	Camel Estuary	European eel (Anguilla anguilla)	High	High	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	Based on EA survey data	71	
Finding Sanctuary	Chesil Beach and Stennis Ledges	High energy infralittoral rock	Low	Low	0	0	0	0	0	0	0						yes	0	0	0	0	0	0	0		58		
Finding Sanctuary	Chesil Beach and Stennis Ledges	High energy intertidal rock	High	High	0	0	0	0	0	1						yes	0	0	0	0	0	0	0	Natural England local marine advisor visually confirms presence of feature	60			
Finding Sanctuary	Chesil Beach and Stennis Ledges	Intertidal coarse sediment	Low	Low	0	0	0	0	0	1						yes	0	0	0	0	0	0	0	Environment agency Intertidal data record EUNIS level 2 habitat (Intertidal) and Natural England local marine advisor cannot confirm visual sighting of habitat in location of EA polygon	13, 60			
Finding Sanctuary	Chesil Beach and Stennis Ledges	Subtidal coarse sediment	High	Low	0	0	0	0	0	0						yes	0	0	0	0	0	0	0	RA confirms presence but unclear on full extent	58			
Finding Sanctuary	Chesil Beach and Stennis Ledges	Subtidal sand	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0		100	0	0	0	0	0	0	0		58	

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED				
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI													
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17							
Finding Sanctuary	Dart Estuary	Coastal saltmarshes and saline reedbeds	High	Low	0	0	0	0	0	0								yes	0	0	0	0	0	0	Data from EA coincides with the northern extent of salt marsh put forward by the project, however smaller areas throughout the site can not be clarified with current data. So H for pres and L for extent.	13		
Finding Sanctuary	Dart Estuary	Intertidal mud	High	High	0	0	0	0	0	1								yes	0	0	0	0	0	0	Numerous MB102 and EA QA data points that support this feature within this site. A couple of mixed sediment records but approximately 10%. So H for both	13, 60		
Finding Sanctuary	Dart Estuary	Low energy intertidal rock	Mod	Mod	0	0	0	0	0	42								yes	0	0	0	0	0	0	A few discrete locations where this feature is shown from MB102 maps with low confidence. Two of the four areas backed up by point records for intertidal rock from MNCR surveys, so M for Pres and M for extent.	60		
Finding Sanctuary	Dart Estuary	Subtidal mud	Mod	Mod	0	0	0	0	0	82	100	36	yes	32	0	0	0	0	0	0	0	0	0	0	0		58, 64	A37
Finding Sanctuary	Dart Estuary	Estuarine rocky habitats	High	Mod	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	0	0	0		21			
Finding Sanctuary	Dart Estuary	Intertidal under boulder communities	Mod	Low	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	0	0	0		21			
Finding Sanctuary	Dart Estuary	European eel (<i>Anguilla anguilla</i>)	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Data from EA records over a number of years from both the freshwater and seaward side of this site.	71		
Finding Sanctuary	Dart Estuary	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Low confidence map, supported by 2006 littoral chalk survey samples covering approx 60% of polygon.	No GI		
Finding Sanctuary	Devon Avon Estuary	Coastal saltmarshes and saline reedbeds	High	High	0	0	0	0	0	0								yes	0	0	0	0	0	0	Data from EA salt marsh survey to back up location of this BSH.	13		
Finding Sanctuary	Devon Avon Estuary	High energy infralittoral rock	Mod	Low	0	0	0	0	0	0								yes	0	0	0	0	0	0	Likely that this feature exists on this site, however, low confidence of extent as not confirmed by other data above the low confidence UKSEAMAP	58		
Finding Sanctuary	Devon Avon Estuary	Intertidal coarse sediment	Low	Low	0	0	0	0	0	0								yes	0	0	0	0	0	0	EA map only not backed up by any EA point data. Not in original UKSEAMAP.	13		
Finding Sanctuary	Devon Avon Estuary	Intertidal mud	Mod	Mod	0	0	0	0	0	42	56	56	yes	0	0	0	0	0	0	0	0	0	0	0		13, 60, 64, 65		
Finding Sanctuary	Devon Avon Estuary	Intertidal sand and muddy sand	Mod	Low	0	0	0	0	0	42								yes	0	0	0	0	0	0	EA biotope map and project recommendations show areas of intertidal mud where MB102 maps indicate sand. Likely that both mud and sand occurs in this site, however, can not determine extent of either of these two features as no QA EA data points coincide with these features.	60		
Finding Sanctuary	Devon Avon Estuary	Moderate energy intertidal rock	Mod	Low	0	0	0	0	0	1								yes	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor.	60		
Finding Sanctuary	Devon Avon Estuary	Subtidal mud	High	Mod	0	0	0	0	0	0								yes	0	0	0	0	0	0	MB102 data where it exists agrees with EA biotope maps and several EA point data points. However, H confidence in extent downgraded to M due to presence in high energy location in estuary mouth.	58, 64		
Finding Sanctuary	Devon Avon Estuary	Subtidal sand	Mod	Mod	0	0	0	0	0	0	0	100	yes	0	0	0	0	0	0	0	0	0	0	0		58		
Finding Sanctuary	Devon Avon Estuary	European eel (<i>Anguilla anguilla</i>)	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Numerous records of Eel over a range of years from the freshwater part of this site.	71		
Finding Sanctuary	Devon Avon Estuary	Tentacled lagoon-worm (<i>Alkmaria romijni</i>)	Low	Low	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21		
Finding Sanctuary	Erme Estuary	High energy infralittoral rock	High	Mod	0	0	0	0	0	0								yes	0	0	0	0	0	0	This feature exists within an overlapping MPA so H for presence, however, only UKSEAMAP for extent to much less certain. Recent acoustic data show infralittoral rock at mouth of estuary but this could be A3.1 or A3.2 depending on exposure.	58		
Finding Sanctuary	Erme Estuary	High energy intertidal rock	High	Low	0	0	0	0	0	1								0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H	60	A75		
Finding Sanctuary	Erme Estuary	Intertidal coarse sediment	High	High	0	0	0	0	0	1								yes	0	0	0	0	0	0	Small part of this feature exists within an overlapping MPA, EA map coincides with Low confidence MESH for extent so more certain of extent. Recent biotope mapping exercise as part of condition assessment (Salcombe to Kingsbridge SSSI and Erme Estuary SSSI Intertidal biotope survey 2009) recorded this habitat so H for both.	13, 60	A75	
Finding Sanctuary	Erme Estuary	Intertidal mixed sediments	High	High	0	0	0	0	0	42								yes	0	0	0	0	0	0	Low confidence MESH data only but recent biotope mapping exercise as part of condition assessment (Salcombe to Kingsbridge SSSI and Erme Estuary SSSI Intertidal biotope survey 2009) recorded this habitat so H for both.	60	A75	
Finding Sanctuary	Erme Estuary	Low energy infralittoral rock	Low	Low	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	0	0	0	0	0		58		
Finding Sanctuary	Erme Estuary	Low energy intertidal rock	Mod	Low	0	0	0	0	0	42								yes	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photo - M	60	A75	
Finding Sanctuary	Erme Estuary	Moderate energy infralittoral rock	Mod	Low	0	0	0	0	0	0								yes	0	0	0	0	0	0	Modelled data only. Recent acoustic data show infralittoral rock at mouth of estuary but this could be A3.1 or A3.2 depending on exposure.	58		
Finding Sanctuary	Erme Estuary	Moderate energy intertidal rock	High	Low	0	0	0	0	0	42								yes	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H	60	A75	

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED
					SPECIES FOCI					BROAD SCALE HABITATS							HABITAT FOCI							
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Finding Sanctuary	Isles of Scilly: Higher Town	Tide-swept channels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0		48		
Finding Sanctuary	Isles of Scilly: Higher Town	Stalked jellyfish (<i>Halicystus auricula</i>)	Mod	Low	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	21, 30	
Finding Sanctuary	Isles of Scilly: Higher Town	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	Low	Low	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0		14, 21	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	High energy circalittoral rock	Mod	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by Scilly historic data from Marine recorder – see Seascope Report Figure 2 - M	65	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	High energy infralittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58, 65	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Moderate energy infralittoral rock	Low	Low	0	0	0	0	0	0	7	13	0	0	0	0	0	0	0	0	0		58, 65	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Moderate energy intertidal rock	Mod	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported only by aerial photos - M	No GI	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Subtidal macrophyte-dominated sediment	High	High	0	0	0	0	0	72	0	0	0	0	0	100	0	0	0	0	0		59	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Subtidal mixed sediments	High	Mod	0	0	0	0	0	72	0	0	0	0	0	100	0	0	0	0	0		59	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Subtidal sand	High	Mod	0	0	0	0	0	72	0	0	0	0	0	100	0	0	0	0	0		59	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Fragile sponge & anthozoan communities on subtidal rocky habitats	High	Mod	0	0	0	0	0	0	0	0	0	0	0	no	no	no	0	0	0		48	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Seagrass beds	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	yes	no	0	0	0	Visual confirmation of feature absence by Natural England local marine advisor - Intertidal feature presence confidence reduced to no confidence. L	14	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Tide-swept channels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Based on anecdotal evidence from IOS local group	No GI	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Pink sea-fan (<i>Eunicella verrucosa</i>)	High	Mod	29	19	21	29	19	0	0	0	0	0	0	0	0	0	0	0	0		1, 14, 17, 18, 19, 21, 30	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	High	Mod	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0		17	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Spiny lobster (<i>Palinurus elephas</i>)	Low	Low	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0		19	
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvoulcs	Sunset cup coral (<i>Leptopsammia pruvoti</i>)	High	Mod	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0		1, 17	
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	High energy circalittoral rock	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by photographic evidence supplied by Tim Allsop (Chair of IoS Wildlife Trust / St Martin's Diving Services). Subtidal feature presence confidence confirmed as high.	65	
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	High energy infralittoral rock	High	Mod	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by photographic evidence supplied by Tim Allsop (Chair of IoS Wildlife Trust / St Martin's Diving Services). Subtidal feature presence confidence confirmed as high.	58, 65	
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	High energy intertidal rock	High	High	0	0	0	0	0	1	0	0	yes	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by IoS Wildlife Trust Biotope Mapping Data (Data held by ERCCIS & supplied to Finding Sanctuary) - Intertidal feature presence confidence increased to high.	60	

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED				
					SPECIES FOCI					BROAD SCALE HABITATS						HABITAT FOCI												
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17							
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Intertidal sand and muddy sand	High	High	0	0	0	0	0	1																Visual confirmation of feature by Natural England local marine advisor supported by IoS Wildlife Trust Biotope Mapping Data (Data held by ERCCIS & supplied to Finding Sanctuary) - Intertidal feature presence confidence increased to high. H	60	
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Moderate energy circalittoral rock	Mod	Mod	0	0	0	0	0	0	0	0	100													Anecdotal evidence only.	58	
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Moderate energy infralittoral rock	Low	Low	0	0	0	0	0	0	0	0	25	yes													58	
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Moderate energy intertidal rock	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by IoS Wildlife Trust Biotope Mapping Data (Data held by ERCCIS & supplied to Finding Sanctuary) - Intertidal feature presence confidence increased to high. H	No GI		
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Subtidal sand	High	High	0	0	0	0	0	72																59		
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Fragile sponge & anthozoan communities on subtidal rocky habitats	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	1	50	0		14, 48, 53				
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Intertidal under boulder communities	High	High	0	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by IoS Wildlife Trust Biotope Mapping Data (Data held by ERCCIS & supplied to Finding Sanctuary) - H	21					
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Seagrass beds	High	High	0	0	0	0	0	0	0	0	0	0	0	yes	yes	yes	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Jackson et al (2011) - Intertidal feature presence confidence increased to high. H	53					
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Tide-swept channels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	0	0	0		53					
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Pink sea-fan (<i>Eunicella verrucosa</i>)	Mod	Mod	13	2	4	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1, 17, 18, 21, 30			
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	No records listed in SAD or GI	No GI			
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Spiny lobster (<i>Palinurus elephas</i>)	Low	Low	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21			
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Stalked jellyfish (<i>Halicystus auricula</i>)	Low	Low	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		30			
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	Low	Low	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		14			
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	High energy circalittoral rock	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IoS Wildlife trust data supporting presence and EA 2012 lidar and intertidal habitat mapping by IoS WT	65			
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	High energy infralittoral rock	Low	Low	0	0	0	0	0	0	50	50	yes													58, 65		
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	Intertidal coarse sediment	High	Mod	0	0	0	0	0	1	yes													IoS Wildlife trust data supporting presence and EA 2012 lidar and intertidal habitat mapping by IoS WT	13, 60			
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	Intertidal mixed sediments	High	Mod	0	0	0	0	0	1	yes													IoS Wildlife trust data supporting presence and EA 2012 lidar and intertidal habitat mapping by IoS WT	60			
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	Intertidal mud	0	0	0	0	0	0	0	1	yes													Visual confirmation of feature absence by Natural England local marine advisor - Intertidal feature presence confidence reduced to no confidence.	60			
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	Intertidal sand and muddy sand	High	High	0	0	0	0	0	1	yes													IoS Wildlife trust data supporting presence and EA 2012 lidar and intertidal habitat mapping by IoS WT	60			
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	Low energy intertidal rock	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	IoS Wildlife trust data supporting presence and EA 2012 lidar and intertidal habitat mapping by IoS WT	No GI			
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0															58, 65			

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED	
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI										
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17				
Finding Sanctuary	Land's End	Bottlenose dolphin (<i>Tursiops truncatus</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		69	
Finding Sanctuary	Land's End	Harbour porpoise (<i>Phocoena phocoena</i>)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		69, 70	
Finding Sanctuary	Lundy	Mud habitats in deep water	High	High	0	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	0		21	
Finding Sanctuary	Lundy	Spiny lobster (<i>Palinurus elephas</i>)	High	High	17	13	13	17	13	0	0	0	0	0	0	0	0	0	0	0	0	0		14, 17, 18, 21	
Finding Sanctuary	Lundy	Guillemot (<i>Uria aalge</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21	
Finding Sanctuary	Lundy	Manx shearwater (<i>Puffinus puffinus</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21	
Finding Sanctuary	Lundy	Manx shearwater (<i>Puffinus puffinus</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21	
Finding Sanctuary	Lundy	Puffin (<i>Fratercula arctica</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21	
Finding Sanctuary	Lundy	Razorbill (<i>Alca torda</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21	
Finding Sanctuary	Lundy RA	Moderate energy circalittoral rock	Mod	Mod	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	0	0	0		58, 65	0
Finding Sanctuary	Lundy RA	Moderate energy infralittoral rock	High	Mod	0	0	0	0	0	77	20	37	16	yes	23	0	0	0	0	0	0	0	Four records in each area (n=8), 5 of which are over 6 years old	58, 59, 65	0
Finding Sanctuary	Lundy RA	Subtidal coarse sediment	High	Mod	0	0	0	0	0	77	0	17	yes	36	0	0	0	0	0	0	0	0		58, 59, 65	0
Finding Sanctuary	Lundy RA	Subtidal sand	High	High	0	0	0	0	0	77	7	51	66	yes	100	0	0	0	0	0	0	0		59, 65	0
Finding Sanctuary	Lundy RA	Fragile sponge & anthozoan communities on subtidal rocky habitats	High	High	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent.	14	
Finding Sanctuary	Lundy RA	Mud habitats in deep water	Low	Low	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	0	0	Very small feature - just 15m2 recommended.	21	
Finding Sanctuary	Lundy RA	Common maerl (<i>Phymatolithon calcareum</i>)	Low	Low	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		14	
Finding Sanctuary	Lundy RA	Pink sea-fan (<i>Eunicella verrucosa</i>)	High	High	106	63	73	106	63	0	0	0	0	0	0	0	0	0	0	0	0	0		1, 14, 17, 18, 21	
Finding Sanctuary	Lundy RA	Sea-fan anemone (<i>Amphianthus dohrnii</i>)	Low	Low	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to medium.	14	
Finding Sanctuary	Lundy RA	Spiny lobster (<i>Palinurus elephas</i>)	High	High	5	3	3	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photos - Intertidal feature presence confidence increased to high.	17, 18, 21	0
Finding Sanctuary	Lundy RA	Sunset cup coral (<i>Leptopsammia pruvoti</i>)	High	High	30	19	22	30	19	0	0	0	0	0	0	0	0	0	0	0	0	0	Four records in each area (n=8), 5 of which are over 6 years old	1, 14, 17, 18, 19, 21	0
Finding Sanctuary	Lyme Bay	High energy infralittoral rock	Mod	Mod	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	0	0	0		58	
Finding Sanctuary	Lyme Bay	Intertidal coarse sediment	Low	Low	0	0	0	0	0	1	0	25	yes	0	0	0	0	0	0	0	0	0		60	
Finding Sanctuary	Lyme Bay	Subtidal mixed sediments	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	
Finding Sanctuary	Lyme Bay	Honeycomb worm reefs (<i>Sabellaria alveolata</i>)	High	Mod	0	0	0	0	0	0	0	0	0	0	no	yes	no	0	0	0	0	0		14	
Finding Sanctuary	Lyme Bay	Peacock's tail (<i>Padina pavonica</i>)	Low	Low	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0		21	
Finding Sanctuary	Lyme Bay	Stalked jellyfish (<i>Halicystus auricula</i>)	Low	Low	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		31	
Finding Sanctuary	Morte Platform	High energy circalittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	
Finding Sanctuary	Morte Platform	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	
Finding Sanctuary	Morte Platform	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	
Finding Sanctuary	Mounts Bay	High energy infralittoral rock	Low	Low	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	0	0	0		58	
Finding Sanctuary	Mounts Bay	Intertidal mixed sediments	High	Low	0	0	0	0	0	1	0	0	yes	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H	60	0
Finding Sanctuary	Mounts Bay	Intertidal sand and muddy sand	High	Low	0	0	0	0	0	1	0	0	yes	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H	60	
Finding Sanctuary	Mounts Bay	Moderate energy intertidal rock	High	Low	0	0	0	0	0	1	0	0	yes	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H	60	

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI									
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Finding Sanctuary	Mounds Bay	Subtidal mixed sediments	Low	Low	0	0	0	0	0	0	yes	0	0	0	0	0	0	0	Low confidence modelled dataset, covers the feature.	58				
Finding Sanctuary	Mounds Bay	Subtidal sand	Low	Low	0	0	0	0	0	0	yes	0	0	0	0	0	0	0	Low confidence modelled dataset, covers the feature.	58	A8, A65			
Finding Sanctuary	Mounds Bay	Seagrass beds	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by CCO aerial images and NE site visit for groundtruthing with geo-referenced photos - H	14	0			
Finding Sanctuary	Mounds Bay	Giant goby (Gobius cobitis)	Mod	Mod	3	1	2	3	1	0	0	0	0	0	0	0	0	0		30	0			
Finding Sanctuary	Mounds Bay	Ocean quahog (Arctica islandica)	Low	Low	3	0	0	3	0	0	0	0	0	0	0	0	0	0		24, 30	0			
Finding Sanctuary	Mounds Bay	Stalked jellyfish (Halicystus auricula)	Low	Low	4	0	0	4	0	0	0	0	0	0	0	0	0	0		30	0			
Finding Sanctuary	Mounds Bay	Stalked jellyfish (Lucernariopsis campanulata)	Low	Low	1	0	0	1	0	0	0	0	0	0	0	0	0	0		14				
Finding Sanctuary	Mounds Bay	Stalked jellyfish (Lucernariopsis campanulata)	Low	Low	1	0	0	1	0	0	0	0	0	0	0	0	0	0		14				
Finding Sanctuary	Mouth of the Yealm	High energy intertidal rock	High	Mod	0	0	0	0	0	1	yes	0	0	0	0	0	0	0		60				
Finding Sanctuary	Mouth of the Yealm	Intertidal coarse sediment	High	Mod	0	0	0	0	0	1	yes	0	0	0	0	0	0	0		13, 60	0			
Finding Sanctuary	Mouth of the Yealm	Moderate energy intertidal rock	High	Mod	0	0	0	0	0	42	yes	0	0	0	0	0	0	0		60				
Finding Sanctuary	Mouth of the Yealm	Estuarine rocky habitats	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0		14	0			
Finding Sanctuary	Mouth of the Yealm	Seagrass beds	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0		14	0			
Finding Sanctuary	Newquay and The Gannel	Coastal saltmarshes and saline reedbeds	High	Low	0	0	0	0	0	0	yes	0	0	0	0	0	0	0		13	0			
Finding Sanctuary	Newquay and The Gannel	High energy intertidal rock	High	Low	0	0	0	0	0	1	yes	0	0	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent.	60	A84			
Finding Sanctuary	Newquay and The Gannel	Intertidal coarse sediment	High	Low	0	0	0	0	0	0	yes	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H	13				
Finding Sanctuary	Newquay and The Gannel	Intertidal mud	High	Low	0	0	0	0	0	42	yes	0	0	0	0	0	0	0	supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H	13, 60				
Finding Sanctuary	Newquay and The Gannel	Intertidal sand and muddy sand	High	Low	0	0	0	0	0	42	yes	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H	60				
Finding Sanctuary	Newquay and The Gannel	Low energy intertidal rock	High	Low	0	0	0	0	0	1	yes	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H	60	A84			
Finding Sanctuary	Newquay and The Gannel	Moderate energy intertidal rock	High	Low	0	0	0	0	0	42	yes	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H	60				
Finding Sanctuary	Newquay and The Gannel	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	yes	0	0	0	0	0	0	0	Data from Lundy survey suggests H for this feature, but this does not coincide with the site. FS final report suggests UKSeaMap data only used (p804) so L confidence	58				
Finding Sanctuary	Newquay and The Gannel	Subtidal mud	Low	Low	0	0	0	0	0	0	yes	0	0	0	0	0	0	0		58	A66, A85			
Finding Sanctuary	Newquay and The Gannel	Subtidal sand	Low	Low	0	0	0	0	0	0	yes	0	0	0	0	0	0	0		58	A66, A85			
Finding Sanctuary	Newquay and The Gannel	European eel (Anguilla anguilla)	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Cornwall Wildlife Trust Data. Verified and QA's by ERCCS. In addition – EA survey data.	71				
Finding Sanctuary	Newquay and The Gannel	Giant goby (Gobius cobitis)	Low	Low	2	0	0	2	0	0	0	0	0	0	0	0	0	0	Very small feature - just 15m2 recommended.	19				
Finding Sanctuary	Newquay and The Gannel	Native oyster (Ostrea edulis)	Low	Low	2	0	0	2	0	0	0	0	0	0	0	0	0	0		30				
Finding Sanctuary	Newquay and The Gannel	Pink sea-fan (Eunicella verrucosa)	Low	Low	1	0	0	1	0	0	0	0	0	0	0	0	0	0		30				

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI									
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Finding Sanctuary	Newquay and The Gannel	Sea snail (<i>Paludinella littorina</i>)	Low	Low	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0		30	0		
Finding Sanctuary	North of Lundy (Atlantic Array area)	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	A90, A91		
Finding Sanctuary	North of Lundy (Atlantic Array area)	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	A90, A91		
Finding Sanctuary	North of Lundy (Atlantic Array area)	Subtidal mixed sediments	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58	A90, A91		
Finding Sanctuary	North of Lundy (Atlantic Array area)	Subtidal sand	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58			
Finding Sanctuary	Otter Estuary	Intertidal coarse sediment	High	Low	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	yes	13, 60			
Finding Sanctuary	Otter Estuary	Intertidal mud	High	Low	0	0	0	0	0	42	0	0	0	0	0	0	0	0	0	yes	13, 60			
Finding Sanctuary	Otter Estuary	Subtidal sand	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	58			
Finding Sanctuary	Otter Estuary	European eel (<i>Anguilla anguilla</i>)	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	Presence of Eel supported by EA data obtained from the freshwater components of the catchment of this estuary. This covers a good range of years and numerous recent records.		
Finding Sanctuary	Padstow Bay and Surrounds	High energy circalittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58, 65			
Finding Sanctuary	Padstow Bay and Surrounds	High energy infralittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	58, 65			
Finding Sanctuary	Padstow Bay and Surrounds	High energy intertidal rock	High	Mod	0	0	0	0	0	42	0	0	0	0	0	0	0	0	0	yes	60	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H		
Finding Sanctuary	Padstow Bay and Surrounds	Intertidal coarse sediment	High	Low	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	yes	13, 60	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H		
Finding Sanctuary	Padstow Bay and Surrounds	Intertidal mud	Low	Low	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	yes	13, 60	Data only modelled and predicted in an area where Intertidal mud seems unlikely. Parent feature (Intertidal sediment) can be found but doubtful if this is mud. EA data not available		
Finding Sanctuary	Padstow Bay and Surrounds	Intertidal sand and muddy sand	High	Low	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	yes	60	Visual confirmation of feature by Natural England local marine advisor supported by evidence from Aerial photos (South West Coastal Monitoring Programme) and geo-referenced photos - H		
Finding Sanctuary	Padstow Bay and Surrounds	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58			
Finding Sanctuary	Padstow Bay and Surrounds	Moderate energy infralittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	58			
Finding Sanctuary	Padstow Bay and Surrounds	Moderate energy intertidal rock	High	Low	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	yes	60			
Finding Sanctuary	Padstow Bay and Surrounds	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	58			
Finding Sanctuary	Padstow Bay and Surrounds	Fan mussel (<i>Atrina pectinata</i> ³⁷)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	No GI	0		
Finding Sanctuary	Padstow Bay and Surrounds	Ocean quahog (<i>Arctica islandica</i>)	Low	Low	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	30			
Finding Sanctuary	Padstow Bay and Surrounds	Pink sea-fan (<i>Eunicella verrucosa</i>)	Mod	Mod	39	0	15	39	0	0	0	0	0	0	0	0	0	0	0	0	1, 17, 19, 21, 30			
Finding Sanctuary	Padstow Bay and Surrounds	Spiny lobster (<i>Palinurus elephas</i>)	Low	Low	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	19, 21			
Finding Sanctuary	Padstow Bay and Surrounds	Stalked jellyfish (<i>Halicystus auricula</i>)	Low	Low	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	30			
Finding Sanctuary	Padstow Bay and Surrounds	Stalked jellyfish (<i>Lucernariopsis campanulata</i>)	Low	Low	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	14			
Finding Sanctuary	Padstow Bay and Surrounds	Bottlenose dolphin (<i>Tursiops truncatus</i>)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0		
Finding Sanctuary	Padstow Bay and Surrounds	Fulmar (<i>Fulmarus glacialis</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67, 68	0		
Finding Sanctuary	Padstow Bay and Surrounds	Guillemot (<i>Uria aalge</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67, 68	Wintering divers and Grebes well documented in the area with expert records available from RSPB		
Finding Sanctuary	Padstow Bay and Surrounds	Kittiwake (<i>Rissa tridactyla</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67, 68	0		
Finding Sanctuary	Padstow Bay and Surrounds	Puffin (<i>Fratercula arctica</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67, 68	0		
Finding Sanctuary	Padstow Bay and Surrounds	Razorbill (<i>Alca torda</i>)	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67, 68	0		
Finding Sanctuary	Poole Rocks	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65			
Finding Sanctuary	Poole Rocks	Subtidal mixed sediments	High	High	0	0	0	0	0	81	0	0	0	0	0	0	0	0	0	100	59, 65	0		
Finding Sanctuary	Poole Rocks	Subtidal sand	High	High	0	0	0	0	0	81	0	0	0	0	0	0	0	0	0	100	59			

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI									
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Finding Sanctuary	Taw Torridge Estuary	Coastal saltmarshes and saline reedbeds	High	Mod	0	0	0	0	0	0	0	0	100	yes	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor including geo-referenced photos -H	13		
Finding Sanctuary	Taw Torridge Estuary	Intertidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photos -M	60, 64		
Finding Sanctuary	Taw Torridge Estuary	Intertidal sand and muddy sand	Mod	Mod	0	0	0	0	0	42	50	100	yes	0	0	0	0	0	0	0	Only modelled data available	60		
Finding Sanctuary	Taw Torridge Estuary	Low energy intertidal rock	Low	Low	0	0	0	0	0	42	0	0	0	yes	0	0	0	0	0	0	EA grab points confirm feature presence.	58		
Finding Sanctuary	Taw Torridge Estuary	Subtidal mud	High	Low	0	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0		58		
Finding Sanctuary	Taw Torridge Estuary	Subtidal sand	Low	Low	0	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0				
Finding Sanctuary	Taw Torridge Estuary	European eel (<i>Anguilla anguilla</i>)	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Finding Sanctuary	The Fal	Intertidal coarse sediment	High	High	0	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor and supporting photographs	13		
Finding Sanctuary	The Fal	Low energy intertidal rock	Mod	Low	0	0	0	0	0	42	0	0	0	yes	0	0	0	0	0	0		60		
Finding Sanctuary	The Fal	Subtidal coarse sediment	High	High	0	0	0	0	0	62	0	0	0	0	100	0	0	0	0	0		59, 65		
Finding Sanctuary	The Fal	Subtidal macrophyte-dominated sediment	High	High	0	0	0	0	0	62	100	100	28	0	100	0	0	0	0	0		59, 63, 65		
Finding Sanctuary	The Fal	Subtidal sand	High	High	0	0	0	0	0	62	0	85	21	yes	100	0	0	0	0	0		59		
Finding Sanctuary	The Fal	Maerl beds	High	Mod	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	5	45.455	28.14528		14, 16, 21	
Finding Sanctuary	The Fal	Seagrass beds	Low	Low	0	0	0	0	0	0	0	0	0	0	0	yes	yes	yes	2	100	0		14	
Finding Sanctuary	The Fal	Burgundy maerl paint weed (<i>Cruoria cruoriaeformis</i>)	Low	Low	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0		21		
Finding Sanctuary	The Fal	Common maerl (<i>Phymatolithon calcareum</i>)	Mod	Mod	7	0	3	7	0	0	0	0	0	0	0	0	0	0	0	0		16, 21, 30		
Finding Sanctuary	The Fal	Coral maerl (<i>Lithothamnion coralloides</i>)	Mod	Mod	14	0	6	14	0	0	0	0	0	0	0	0	0	0	0	0		16, 21		
Finding Sanctuary	The Fal	Couch's goby (<i>Gobius couchi</i>)	Low	Low	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0		21		
Finding Sanctuary	The Fal	European eel (<i>Anguilla anguilla</i>)	Mod	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Regional Environment Characterisation survey data that contradicts other existing data. Further survey required to clarify presence and extent.	71		
Finding Sanctuary	The Fal	Grateloup's little-lobed weed (<i>Grateloupia montagnei</i>)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	No supporting data	21		
Finding Sanctuary	The Fal	Native oyster (<i>Ostrea edulis</i>)	Mod	Mod	4	2	2	4	2	0	0	0	0	0	0	0	0	0	0	0		14, 19		
Finding Sanctuary	The Fleet	Coastal saltmarshes and saline reedbeds	High	High	0	0	0	0	0	1	0	0	0	yes	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor	13, 60		
Finding Sanctuary	The Fleet	Intertidal coarse sediment	0	0	0	0	0	0	0	0	0	0	0	yes	0	0	0	0	0	0	Visual confirmation of feature absence by Natural England local marine advisor - Intertidal feature presence confidence reduced to no confidence. L	13		
Finding Sanctuary	The Fleet	Intertidal mud	High	Low	0	0	0	0	0	1	0	0	0	yes	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H	13, 60		

REGIONAL PROJECT	SITE NAME	FEATURE NAME	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED
				SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI									
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Finding Sanctuary	Whitsand and Looe Bay	Moderate energy intertidal rock	0 0 0 0 0 1						yes	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photo - H	60				
Finding Sanctuary	Whitsand and Looe Bay	Subtidal coarse sediment	0 0 0 0 0 0						yes	0	0	0	0	0	0	0	One modelled dataset - large area, two supporting data points.	58					
Finding Sanctuary	Whitsand and Looe Bay	Subtidal sand	0 0 0 0 0 0 25 25					yes	0	0	0	0	0	0	0		58, 65						
Finding Sanctuary	Whitsand and Looe Bay	Seagrass beds	0 0 0 0 0 0 0 0 0 0 0						0	yes	yes	no	0	0	0	Detailed biotope mapping which has been ground truth with some photos from Kent Wildlife trust. This is only recent data that has been submitted to ABPmer, but this data is a good justification of the presence of feature	14	A82					
Finding Sanctuary	Whitsand and Looe Bay	Giant goby (Gobius cobitis)	5 0 0 5 0 0 0 0 0 0 0						0	0	0	0	0	0	0		19, 30						
Finding Sanctuary	Whitsand and Looe Bay	Long snouted seahorse (Hippocampus guttulatus)	1 0 0 1 0 0 0 0 0 0 0						0	0	0	0	0	0	0		30						
Finding Sanctuary	Whitsand and Looe Bay	Ocean quahog (Arctica islandica)	0 0 0 0 0 0 0 0 0 0 0						0	0	0	0	0	0	0	Three records, 9 to 3 years old. Spread across site.	1, 14, 17, 19						
Finding Sanctuary	Whitsand and Looe Bay	Pink sea-fan (Eunicella verrucosa)	52 33 48 52 33 0 0 0 0 0 0						0	0	0	0	0	0	0		1, 14, 17, 19, 30						
Finding Sanctuary	Whitsand and Looe Bay	Sea-fan anemone (Amphianthus dohrnii)	7 6 7 7 6 0 0 0 0 0 0						0	0	0	0	0	0	0		1, 14, 17, 19						
Finding Sanctuary	Whitsand and Looe Bay	Stalked jellyfish (Halicystus auricula)	3 0 0 3 0 0 0 0 0 0 0						0	0	0	0	0	0	0		19, 30						
ISCZ	Allonby Bay	High energy intertidal rock	0 0 0 0 0 1								0	0	0	0	0		60	A72					
ISCZ	Allonby Bay	Intertidal biogenic reefs	0 0 0 0 0 42					yes	0	0	0	0	0	0	0	Commissioned surveys of reefs by English Nature & CSFC, reefs occur only on mid and lower shore, so extent map in recommended report is inaccurate.	60	A72					
ISCZ	Allonby Bay	Subtidal coarse sediment	0 0 0 0 0 0					yes	0	0	0	0	0	0	0	Modelled extent data supported by acoustic data with some ground truthing by video stills.	58	A25, A49, A50					
ISCZ	Allonby Bay	Subtidal sand	0 0 0 0 0 0					yes	0	0	0	0	0	0	0		58						
ISCZ	Allonby Bay	Blue Mussel Beds	0 0 0 0 0 0 0 0 0 0 0						0	no	yes	yes	0	0	0	Numerous records for this temporally variable feature, confirmed by annual shore surveys undertaken for CSFC. Natural England local marine advisor also confirms site can and does support this type of feature, however, the extent of mussel bed will vary between years.	21	A72					
ISCZ	Allonby Bay	Honeycomb worm reefs (Sabellaria alveolata)	0 0 0 0 0 0 0 0 0 0 0						0	yes	yes	yes	2	100	0	Presence of Sabellaria alveolata HOCl confirmed by survey report and photographs in: NWIFCA Cumbria Shore Survey 2011 (Lancaster, 2012).	21, 43	A72					
ISCZ	Allonby Bay	Peat and clay exposures	0 0 0 0 0 0 0 0 0 0 0						0	0	0	0	0	0	0		No GI						
ISCZ	Allonby Bay	Subtidal sands and gravels	0 0 0 0 0 0 0 0 0 0 0						0	yes	no	yes	0	0	0		49, 66	A25, A49, A50					
ISCZ	Allonby Bay RA	Moderate energy infralittoral rock	0 0 0 0 0 0					yes	0	0	0	0	0	0	0	Modelled data for extent, high confidence in presence confirmed by local fishermen (NWIFCA officer) and MCA multibeam data; low confidence in distribution.	58	A49, A50					
ISCZ	Allonby Bay RA	Subtidal coarse sediment	0 0 0 0 0 0					yes	0	0	0	0	0	0	0	Modelled data for extent, high confidence in presence confirmed by local fishermen (NWIFCA officer) and MCA multibeam data; low confidence in distribution.	58	A49, A50					
ISCZ	Allonby Bay RA	Subtidal sand	0 0 0 0 0 0					yes	0	0	0	0	0	0	0	Modelled data for extent, high confidence in presence confirmed by local fishermen (NWIFCA officer) and MCA multibeam data; low confidence in distribution.	58						
ISCZ	Allonby Bay RA	Subtidal sands and gravels	0 0 0 0 0 0 0 0 0 0 0						0	yes	no	no	0	0	0		49, 66	A49, A50					
ISCZ	Barrow North	Coastal saltmarshes and saline reedbeds	0 0 0 0 0 1					yes	0	0	0	0	0	0	0	NE survey of SSSI units showing pres and extent of habitat and its persistence over time.	60	A51					
ISCZ	Barrow North	Intertidal mud	0 0 0 0 0 1					yes	0	0	0	0	0	0	0		60	A51					
ISCZ	Barrow North	Subtidal coarse sediment	0 0 0 0 0 0 0					yes	0	0	0	0	0	0	0	Modelled data only with no validation points.	58						
ISCZ	Barrow South	Intertidal mud	0 0 0 0 0 42						0	0	0	0	0	0	0		60	A68, A69					
ISCZ	Barrow South	Intertidal sediments dominated by aquatic angiosperms	0 0 0 0 0 43						0	0	0	0	0	0	0		60	A68, A69, A70					
ISCZ	Barrow South	Seagrass beds	0 0 0 0 0 0 0 0 0 0 0						0	yes	yes	no	0	0	0		49	A68, A69, A70					
ISCZ	Cumbria Coast	High energy infralittoral rock	0 0 0 0 0 0					yes	0	0	0	0	0	0	0	Modelled extent data supported by a number of surveys that confirm presence but not distribution.	58	A72					
ISCZ	Cumbria Coast	High energy intertidal rock	0 0 0 0 0 1						0	0	0	0	0	0	0	Visual confirmation of feature supported by photographs of the interest feature by Natural England local marine advisor and aerial photography - Intertidal feature presence confidence increased to high.	60	A72					
ISCZ	Cumbria Coast	Intertidal biogenic reefs	0 0 0 0 0 42					yes	0	0	0	0	0	0	0	Supported by IECs records and Natural England local marine advisor confirms presence of this feature. Extent less confident due to temporal variability in this feature.	60	A72					
ISCZ	Cumbria Coast	Intertidal sand and muddy sand	0 0 0 0 0 42					yes	0	0	0	0	0	0	0	Modelled extent data supported by a number of surveys that confirm presence but not distribution.	60	A72					

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NO USED			
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI												
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17						
ISCZ	West of Walney Proposed Co-Location Zone	Subtidal sand	High	High	0	0	0	0	0	0	0	100	100	40		40	0	0	0	0	0	0	0		3, 58		
ISCZ	West of Walney Proposed Co-Location Zone	Mud habitats in deep water	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		49		
ISCZ	West of Walney Proposed Co-Location Zone	Sea pens and burrowing megafauna	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		29		
ISCZ	Wyre-Lune	European eel (<i>Anguilla anguilla</i>)	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	EA data showing multiple species records within the last 6 years.	71	A71	
ISCZ	Wyre-Lune	Smelt (<i>Osmerus eperlanus</i>)	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	EA data showing multiple species records within the last 6 years.	71	A71	
Net Gain	Alde Ore Estuary	Estuarine rocky habitats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	0	No supporting data	21		
Net Gain	Alde Ore Estuary	Sheltered muddy gravels	Mod	Low	0	0	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	0	Supported by MNCR point records. No polygon data available so no cannot assess extent.	21	A11	
Net Gain	Alde Ore Estuary	Smelt (<i>Osmerus eperlanus</i>)	Mod	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	EA report shows multiple records of this species at a number of locations within this site, the latest being during 2006.	71		
Net Gain	Alde Ore Estuary	Orfordness (Subtidal)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent as feature is point data.	No GI		
Net Gain	Aln Estuary	Coastal saltmarshes and saline reedbeds	High	Mod	0	0	0	0	0	0	0	0	0	yes		0	0	0	0	0	0	0	0	Intertidal feature where extent confidence reduced to moderate due to managed realignment, resulting in differences in extent since the projects recommended were submitted.	7		
Net Gain	Aln Estuary	High energy infralittoral rock	Low	Low	0	0	0	0	0	0	0	0	0	yes		0	0	0	0	0	0	0	0	Modelled data only	58		
Net Gain	Aln Estuary	Intertidal mud	High	Mod	0	0	0	0	0	1		0	0	yes		0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.	60		
Net Gain	Aln Estuary	Estuarine rocky habitats	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	0	Supported by MNCR point records and Natural England local marine advisor confirms presence of this feature and likely extent.	21		
Net Gain	Aln Estuary	Sheltered muddy gravels	Mod	Low	0	0	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	0	0	Supported by some MNCR point records. No polygon data available so no cannot assess extent.	21		
Net Gain	Aln Estuary	Subtidal sands and gravels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	yes	0	0	0	0		49	
Net Gain	Berwick Coast	High energy intertidal rock	High	High	0	0	0	0	0	70						100	0	0	0	0	0	0	0		60		
Net Gain	Berwick Coast	Low energy intertidal rock	High	High	0	0	0	0	0	70						100	0	0	0	0	0	0	0		60, 65		
Net Gain	Berwick Coast	Moderate energy intertidal rock	High	High	0	0	0	0	0	70						81	0	0	0	0	0	0	0	Detailed biotope mapping which has been ground truth with some photos from Kent Wildlife trust. This is only recent data that has been submitted to ABPmer, but this data is a good justification of the presence of feature	60, 65		
Net Gain	Berwick Coast	Subtidal coarse sediment	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		58		
Net Gain	Berwick Coast	Intertidal under boulder communities	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	no	no	no	0	0	0	0		21		
Net Gain	Berwick Coast	Subtidal sands and gravels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	yes	no	no	0	0	0	0		66		
Net Gain	Blakeney Marsh	Coastal saltmarshes and saline reedbeds	High	High	0	0	0	0	0	75			yes		46	0	0	0	0	0	0	0	0		6, 10, 59		
Net Gain	Blakeney Marsh	Intertidal mud	High	High	0	0	0	0	0	75			yes		100	0	0	0	0	0	0	0	0		59		
Net Gain	Blakeney Marsh	Intertidal sand and muddy sand	High	High	0	0	0	0	0	75			yes		100	0	0	0	0	0	0	0	0		59		
Net Gain	Blakeney Marsh	Littoral chalk communities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		No GI		
Net Gain	Blakeney Marsh	North Norfolk coast (Subtidal)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent.	No GI		
Net Gain	Blakeney Seagrass	Intertidal mud	High	Mod	0	0	0	0	0	75					25	0	0	0	0	0	0	0	0		59, 60		
Net Gain	Blakeney Seagrass	Intertidal sand and muddy sand	Mod	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photos - Intertidal feature presence confidence increased to high.	No GI		
Net Gain	Blakeney Seagrass	Seagrass beds	High	High	0	0	0	0	0	0	0	0	0	0	0	0	yes	yes	no	0	0	0	0	West et al 2010 survey and Natural England local advisor site verification survey	49		
Net Gain	Blakeney Seagrass	North Norfolk coast (Subtidal)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent.	No GI		
Net Gain	Castle Ground	High energy intertidal rock	High	Mod	0	0	0	0	0	1			yes		0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.	60		
Net Gain	Castle Ground	Intertidal coarse sediment	High	Low	0	0	0	0	0	1			yes		0	0	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to moderate.	60		
Net Gain	Castle Ground	Intertidal mud	High	High	0	0	0	0	0	1					0	0	0	0	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.	60		

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NOT USED
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI									
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Net Gain	Castle Ground	Intertidal sand and muddy sand	High	High	0	0	0	0	0	42					yes		0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.	60	
Net Gain	Castle Ground	Low energy intertidal rock	High	Mod	0	0	0	0	0	1							0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.	60	
Net Gain	Castle Ground	Moderate energy intertidal rock	High	Mod	0	0	0	0	0	1				yes		0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.	60		
Net Gain	Castle Ground	Intertidal under boulder communities	High	Mod	0	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.	21		
Net Gain	Coquet to St Mary's	High energy infralittoral rock	Mod	Low	0	0	0	0	0	0	0	25	yes		0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	58			
Net Gain	Coquet to St Mary's	Intertidal coarse sediment	High	Mod	0	0	0	0	0	70			yes		10	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.	60		
Net Gain	Coquet to St Mary's	Intertidal mixed sediments	High	Mod	0	0	0	0	0	1			yes		0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.	60			
Net Gain	Coquet to St Mary's	Intertidal mud	High	Mod	0	0	0	0	0	1			yes		0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.	60			
Net Gain	Coquet to St Mary's	Intertidal sand and muddy sand	High	Mod	0	0	0	0	0	70			yes		6	0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.	60		
Net Gain	Coquet to St Mary's	Low energy intertidal rock	Mod	Low	0	0	0	0	0	1			yes		0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	60			
Net Gain	Coquet to St Mary's	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0					0	0	0	0	0		58			
Net Gain	Coquet to St Mary's	Moderate energy infralittoral rock	Low	Low	0	0	0	0	0	0					0	0	0	0	0		58, 65			
Net Gain	Coquet to St Mary's	Moderate energy intertidal rock	Mod	Low	0	0	0	0	0	1	0	100	yes		0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	60, 65			
Net Gain	Coquet to St Mary's	Subtidal coarse sediment	Mod	Low	0	0	0	0	0	74					100	0	0	0	0	Only a small proportion of the high quality survey data lies within MCZ boundary and there are no supporting ground truthing points.	59			
Net Gain	Coquet to St Mary's	Subtidal mixed sediments	Mod	Low	0	0	0	0	0	74					100	0	0	0	0	Only a small proportion of the high quality survey data lies within MCZ boundary and there are no supporting ground truthing points.	59			
Net Gain	Coquet to St Mary's	Subtidal mud	Low	Low	0	0	0	0	0	0			yes		0	0	0	0	0	Modelled data only	58			
Net Gain	Coquet to St Mary's	Subtidal sand	Low	Low	0	0	0	0	0	0			yes		0	0	0	0	0	Modelled data only	58			
Net Gain	Coquet to St Mary's	Intertidal under boulder communities	High	Mod	0	0	0	0	0	0	0	0	0	0	no	no	yes	0	0	Supported by MNCR point records.	21			
Net Gain	Cromer Shoal Chalk Beds	High energy infralittoral rock	Low	Low	0	0	0	0	0	0					0	0	0	0	0		58			
Net Gain	Cromer Shoal Chalk Beds	Moderate energy circalittoral rock	Low	Low	0	0	0	0	0	0					0	0	0	0	0		58			
Net Gain	Cromer Shoal Chalk Beds	Moderate energy infralittoral rock	Low	Low	0	0	0	0	0	0			yes		0	0	0	0	0	Modelled data only with no validation points.	58			
Net Gain	Cromer Shoal Chalk Beds	Subtidal chalk	High	Low	0	0	0	0	0	0	0	0	0	0	yes	no	yes	21	77.778	3.717164		1, 26, 54		
Net Gain	Cromer Shoal Chalk Beds	North Norfolk coast (Subtidal)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent as feature is point data.	No GI			
Net Gain	Dogs Head Sandbanks	Intertidal mud	0	0	0	0	0	0	0	1			yes		0	0	0	0	0	This is likely to have been incorrectly recorded by the project. Although modelled maps showed mud, this is an Intertidal sand feature which is always referred to as Intertidal sand in the final reports. So low confidence for presence and extent of the recorded mud feature.	60			
Net Gain	Dogs Head Sandbanks	Subtidal biogenic reefs	Mod	Mod	0	0	0	0	0	71					100	0	0	0	0		59			
Net Gain	Dogs Head Sandbanks	Subtidal mixed sediments	Mod	Mod	0	0	0	0	0	71					100	0	0	0	0		59			
Net Gain	Dogs Head Sandbanks	Subtidal mud	Mod	Mod	0	0	0	0	0	71					100	0	0	0	0		59			
Net Gain	Dogs Head Sandbanks	Subtidal sand	High	High	0	0	0	0	0	71	100	100	yes		60	0	0	0	0		58, 59, 64, 65			
Net Gain	Dogs Head Sandbanks	Ross worm reefs (Sabellaria spinulosa)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	yes	yes	no	0		49			
Net Gain	Dogs Head Sandbanks	Subtidal chalk	Low	Low	0	0	0	0	0	0	0	0	0	0	0	yes	no	no	0		54			
Net Gain	Dogs Head Sandbanks	Subtidal sands and gravels	High	High	0	0	0	0	0	0	0	0	0	0	yes	no	no	1	100		21, 49, 66			
Net Gain	Dogs Head Sandbanks	Gibraltar point (Subtidal)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent.	No GI			
Net Gain	Flamborough Head No Take Zone	High energy infralittoral rock	High	High	0	0	0	0	0	64	11	22			100	0	0	0	0		59, 65			
Net Gain	Flamborough Head No Take Zone	Intertidal coarse sediment	High	Mod	0	0	0	0	0	51					0	0	0	0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.	60			
Net Gain	Flamborough Head No Take Zone	Intertidal sand and muddy sand	High	Mod	0	0	0	0	0	1	0	0					0	0	Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.	60				
Net Gain	Flamborough Head No Take Zone	Moderate energy infralittoral rock	High	High	0	0	0	0	0	64	27	45	8		100	0	0	0	0		58, 59, 65			

REGIONAL PROJECT	SITE NAME	FEATURE NAME	PRESENCE	EXTENT	AUDIT TRAIL																	ADDITIONAL COMMENTS	DATA USED	DATA NOT USED				
					SPECIES FOCI					BROAD SCALE HABITATS					HABITAT FOCI													
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17							
Net Gain	Flamborough Head No Take Zone	Moderate energy intertidal rock	Mod	Mod	0	0	0	0	0	51																Visual confirmation of feature by Natural England local marine advisor - Intertidal feature presence confidence increased to high.	60, 65	
Net Gain	Flamborough Head No Take Zone	Littoral chalk communities	High	Mod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation by Natural England local marine advisor supported by extensive and multiple mapping studies that support the feature presence have taken place due to NTZ status - Seasearch/ universities.	No GI	
Net Gain	Flamborough Head No Take Zone	Subtidal sands and gravels	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	The no take zone has been mapped by Natural England and EIFCA and results show presence of subtidal sands and gravels within the site.	21, 49	
Net Gain	Glaven Reedbed	Coastal saltmarshes and saline reedbeds	High	High	0	0	0	0	0	75																Visual confirmation of feature by Natural England local marine advisor supported by geo-referenced photographs. - Intertidal feature presence confidence increased to high.	10, 12, 59	
Net Gain	Holderness Inshore	Intertidal mixed sediments	High	Mod	0	0	0	0	0	1																Ecological Assessment of Yorkshire Coast using roxann GDA, grab sampling and drop down video . Report to North Eastern Sea Fisheries Committee, Institute of Estuarine and Coastal Studies, University of Hull confirms feature presence.	60	
Net Gain	Holderness Inshore	Subtidal coarse sediment	High	Mod	0	0	0	0	0	0																One point record only.	58	
Net Gain	Holderness Inshore	Subtidal sand	High	Mod	0	0	0	0	0	81																Three records, only one in last 6 years. Only point records indicates low confidence in extent.	9, 58	
Net Gain	Holderness Inshore	Peat and clay exposures	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	One point record only.	21, 26		
Net Gain	Holderness Inshore	Ross worm reefs (Sabellaria spinulosa)	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent as feature is point data.	21		
Net Gain	Holderness Inshore	Subtidal chalk	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent as feature is point data.	21, 54		
Net Gain	Holderness Inshore	Subtidal sands and gravels	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Confident that geological feature exists within site. Cannot assess extent as feature is point data.	21, 66		
Net Gain	Holderness Inshore	Spurn Head (Subtidal)	High	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Modelled data only with no validation points.	No GI		
Net Gain	Lincs Belt	Subtidal coarse sediment	Mod	Mod	0	0	0	0	0	71																Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	58, 59	
Net Gain	Lincs Belt	Subtidal mixed sediments	Mod	Mod	0	0	0	0	0	81																Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	9, 59	
Net Gain	Lincs Belt	Subtidal sand	Mod	Mod	0	0	0	0	0	81																Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	9, 58	
Net Gain	Lincs Belt	Peat and clay exposures	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	26, 56		
Net Gain	Lincs Belt	Subtidal sands and gravels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	49, 66		
Net Gain	North Norfolk Blue Mussel Beds	Moderate energy infralittoral rock	Low	Low	0	0	0	0	0	0																Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	58	
Net Gain	North Norfolk Blue Mussel beds	Blue Mussel Beds	High	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	25		
Net Gain	North Norfolk Blue Mussel Beds	Subtidal chalk	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	54		
Net Gain	North Norfolk Blue Mussel Beds	Subtidal sands and gravels	Low	Low	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	66		
Net Gain	Runswick Bay	High energy circalittoral rock	Mod	Low	0	0	0	0	0	0																Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	58	
Net Gain	Runswick Bay	High energy infralittoral rock	Mod	Low	0	0	0	0	0	0																Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	58	
Net Gain	Runswick Bay	Moderate energy circalittoral rock	Mod	Low	0	0	0	0	0	0																Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	58	
Net Gain	Runswick Bay	Moderate energy infralittoral rock	Mod	Low	0	0	0	0	0	0																Visual confirmation of parent feature by Natural England local marine advisor - Intertidal feature presence confidence increased to moderate.	58	
Net Gain	Runswick Bay	Subtidal coarse sediment	High	Low	0	0	0	0	0	0																Ecological Assessment of Yorkshire Coast Prohibited Trawling Areas. Report to North Eastern Sea Fisheries Committee, Institute of Estuarine and Coastal Studies, University of Hull. The habitat mapping within this report confirms the presence of this feature within the site.	58	
Net Gain	Runswick Bay	Subtidal mixed sediments	High	Low	0	0	0	0	0	0																Ecological Assessment of Yorkshire Coast Prohibited Trawling Areas. Report to North Eastern Sea Fisheries Committee, Institute of Estuarine and Coastal Studies, University of Hull. The habitat mapping within this report confirms the presence of this feature within the site.	58	

Table 228 Balanced Seas Offshore Sites

Site name	Feature	Feature code	Feature type	Data_Source	Data source information	Date collected (when relevant)	QA information available (please note these are not comparable between data sources)	QA or Confidence A for habitat maps	Data Type	Presence Confidence	Presence Justification	Extent Confidence	Extent Justification	Comments	
Offshore Brighton	A4.1 High energy circalittoral rock	BS 14 A4.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	One sample point not within the recommended feature extent	Low	One sample point not within the recommended feature extent	One data point from MB102 for subtidal sands and gravels within the recommended feature	
				Marine Recorder	MRRMIT600000001C (Central English Channel) , Only one sample point of CR.HCR within the site	2006			Groundtruth						
	A4.2 Moderate energy circalittoral rock	BS 14 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data from the MALSF REC Habitat map from survey covering 100% of the site but no groundtruth data points are within the recommended feature	Low	Modelled data from the MALSF REC Habitat map from survey covering 100% of the site but not groundtruth data are within the site		
				MALSF REC	Modelled data from the MALSF REC Habitat map from survey covering 100% of the site but no groundtruth data points are within the recommended feature				Habitat map (from survey)						
	A5.4 Subtidal mixed sediments	BS 14 A5.4	BSH	Cefas data mining		2006/2005					High	Presence of feature supported by interpreted ground-truthing data	Mod	Sample data points cover Less than 50% of the recommended feature	
				Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map						
				Marine Recorder	MRRMIT600000000F (Eastern English Channel) 61 Biotope records from Marine recorder of the feature SS.SMx across the site and 18 points from Cefas data mining contract identified as A5.4	2006			Groundtruth						
				MALSF REC					Habitat map (from survey)						
	Offshore Brighton	Ross worm (Sabellaria spinulosa) reefs	BS 14 HOCl_16	FOCI habitat	EA database	Data not available as recommended in the MCZ final report (all EA records fall outside of the site) after contacting EA we have not been able to track down this data.				Low	Data not available as recommended in the MCZ final report	Low	No records fall within in this site	No records fall within in this site however the SAD from BS displays data	

	Subtidal sands and gravels	BS 14 HOCl_21	FOCI habitat	Marine Recorder	83 Biotope records from Marine recorder of the feature SS.SCS verify it the presence of subtidal sand and gravels within the site but not within the recommended extent	2006				Mod	Multiple records support the feature but not in the recommended extent	Low	Multiple records support the feature but not in the recommended extent	Conflicting evidence from two different habitat maps to do with expert judgment on the classification between GB001090 and the REC South coast Survey.
				Cefas data mining	26 habitat Points A5.1	2006/ 2005								
				MB102	MPALAYERS000052 2008 : one data point available from MB102 contract to support the feature (modelled data from the MALSF REC Habitat map from survey covering 100% of the site but not groundtruth data are within the site)	2008								
Offshore Overfalls	A5.1 Subtidal coarse sediment	BS 17 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	High	MALSF REC a Habitat map from survey covering 100% of the site with 7 translated points to SS.SCS A5.1. Plus 4 records from Marine recorder database showing occurrence of SS.SCS. The Marine Recorder records are not within the suggested feature extent and not well distributed. The Cefas data mining identified 63 records in a concentrated area as A5.1, however only 2 records are within the recommended feature.	Low	MALSF REC a Habitat map from survey covering 100% of the site with 7 translated points to SS.SCS A5.1. Plus 4 records from Marine recorder database showing occurrence of SS.SCS. The Marine Recorder records are not within the suggested feature extent and not well distributed. The Cefas data mining identified 63 records in a concentrated area as A5.1, however only 2 records are within the recommended feature.	Conflicting evidence from two different habitat maps to do with expert judgment on the classification between GB001090 and the REC South coast Survey
				Marine Recorder	4 records are recorded as SS.SCS	2000/2005/ 2006								
				Cefas data mining	62 Records of A5.1									

Offshore Overfalls	A5.1 Subtidal coarse sediment cont.	BS 17 A5.1	BSH	MALSF REC	MALSF REC a Habitat map from survey covering 100% of the site with 7 translated points to SS.SCS A5.1. Plus 4 records from Marine recorder database showing occurrence of SS.SCS. The Marine Recorder records are not within the suggested feature extent and not well distributed. The Cefas data mining identified 63 records in a concentrated area as A5.1, however only 2 records are within the recommended feature.				Habitat map (from survey) and groundtruthing					
Offshore Overfalls	A5.2 Subtidal sand	BS 17 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	MALSF REC a Habitat map from survey covering 100% of the site with 2 translated points to SS.SSa A5.2, 3 points from the Cefas data mining Identified as A5.4 however 62 points are recorded as A5.1 within one section of the recommended feature. The site is large so the confidence has been given Moderate	Low	MALSF REC a Habitat map from survey covering 100% of the site with 2 translated points to SS.SSa A5.2, 3 points from the Cefas data mining Identified as A5.4 however 62 points are recorded as A5.1 within one section of the recommended feature. The site is large so the confidence has been given Low	
				MALSF REC	MALSF REC a Habitat map from survey covering 100% of the site with 2 translated points to SS.SSa A5.2, 3 points from the Cefas data mining Identified as A5.4 however 62 points are recorded as A5.1 within one section of the recommended feature. The site is large so the confidence has been given Moderate			Habitat map (from survey) and groundtruthing						
	A5.4 Subtidal mixed sediments	BS 17 A5.4	BSH	Cefas data mining	3 points Identified as A5.4	1998-2004					High	Presence of feature shown by a habitat map with polygons containing biological validation samples	Mod	Habitat extent supported by a habitat map (from survey)* covering more than 50% of the recommended feature
				Marine Recorder	MRMCS00400000008, MIT6000000000D, MRLRC01200000003, 6 have no biotope code , Records recorded as SS.SCS	2000/2005/2006		UKSeamap Confidence Assessment	0-70 range	Groundtruth				
				Combined MESH/UKSeaMap	UKSeaMap				Habitat map					
MALSF REC	MALSF REC a Habitat map from survey covering 100% of the site with 3 translated points to SS.SMx A5.4					Habitat map (from survey) and groundtruthing								
Conflicting evidence from two different habitat maps to do with expert judgment on the classification between GB001090 and the REC South coast Survey.														

	English Channel outburst flood features	BS 17 English Channel outburst flood features	Geological features	MB102	This is an extremely large extensive feature which would require most of the English Channel part of the southern North Sea to be rMCZ. The areas which are covered by rMCZs (Offshore Overfalls BS_17 & East Meridian BS_29) may be adequate to be representative of the feature.					High	This is an extremely large extensive feature which would require most of the English Channel part of the southern North Sea to be rMCZ. The areas which are covered by rMCZs (Offshore Overfalls BS_17 & East Meridian BS_29) may be adequate to be representative of the feature.	High	Geological feature	
Offshore Overfalls	Ross worm (Sabellaria spinulosa) reefs	BS 17 HOCl_16	FOCI habitat	Cefas data mining	2 records of Ross worm reef across the recommended MCZ	1999				Mod	Presence of feature supported by interpreted ground-truthing data	Mod	Sample data covering less than 50% of the recommended feature	
				South coast REC & EA database	9 records of Ross worm reef across the recommended MCZ	2007								
	Subtidal sands and gravels	BS 17 HOCl_21	FOCI habitat	Marine Recorder	6 have no biotope code , 4 records are recorded as SS.SCS The Marine Recorder records are not within the suggested feature extent and not well distributed	2000/2005/2006				High	Presence of feature shown by a habitat map with polygons containing biological validation samples	Mod	Habitat extent supported by a habitat map (from survey)* covering less than 50% of the recommended feature	Conflicting evidence from two different habitat maps to do with expert judgment on the classification between GB001090 and the REC South coast Survey
				MB102	MALSF REC a Habitat map from survey covering 100% of the site with 2 translated points to SS.SSa A5.2 & 7 translated points to SS.SCS A5.1.		79	Habitat map (from survey) and groundtruthing						
	Undulate Ray (Raja undulata)	BS 17 SOCI_33	FOCI species	Local information						Low	Local information available	Low	Local information available	Anecdotal information from stakeholder group
Wight-Barfleur Extension	A5.1 Subtidal coarse sediment	BS 21 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available. MALSF REC habitat map cover site but no groundtruth validation data points are within the site	Low	Modelled data available.	These are kept low due to no underlying data from the two conflicting habitat maps being available for this site
				MALSF REC	MALSF REC habitat map cover site but no groundtruth validation data points are within the site				Habitat map (from survey)					

Wight- Barfleur Extension	A5.4 Subtidal mixed sediments	BS 21 A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available. MALSF REC habitat map cover site but no groundtruth validation data points are within the site	Low	Modelled data available.	These are kept low due to no underlying data from the two conflicting habitat maps being available for this site
				MALSF REC	MALSF REC habitat map cover site but no groundtruth validation data points are within the site									
	Subtidal sands and gravels	BS 21 HOCl_21	FOCI habitat	MB102	MALSF REC habitat map cover site but no groundtruth validation data points are within the site					Low	Modelled data available. MALSF REC habitat map cover site but no groundtruth validation data points are within the site	Low	Modelled data available.	These are kept low due to no underlying data from the two conflicting habitat maps being available for this site
East Meridian (Eastern side)	A5.2 Subtidal sand		BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Presence of parent records with more than 90% agreement	Low	Parent records available	Conflicting habitat maps
				Cefas data mining	2 A5.1 and 1 A5.4	2000								
				MALSF REC	2 points			Habitat map						
	A5.4 Subtidal mixed sediments		BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	One record not within recommended feature extent	Low	Modelled data available.	Conflicting habitat maps
Cefas data mining				1 record of A5.4 not within recommended feature extent	2000									
MALSF REC				2 points			Habitat map (from survey)							
Subtidal sands and gravels	BS 29.2 HOCl_21	FOCI habitat	Cefas data mining	3 records of SS.SCS only 1 is within the recommended feature extent	2005				Mod		Low		Conflicting habitat maps	
East Meridian	A5.2 Subtidal sand	BS 29 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of parent records with more than 90% agreement	Low	Parent records available covering less than 50% of the feature	Conflicting habitat maps
				Marine Recorder	4 SS.SCS									

				BGS data points	32 records of a parent feature within the site (A5.1)										
East Meridian	A5.2 Subtidal sand cont.	BS 29 A5.2	BSH	Cefas data mining	4 A5.1 and 1 A5.4	2000									
				MALSF REC	5 points				Habitat map (from survey)						
	A5.4 Subtidal mixed sediments		BSH	Combined MESH/UKSeaMap	UKSeaMap			UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	One record available	Low	One record available	Conflicting habitat maps
				Cefas data mining	One record available	2000									
				MALSF REC	3 points				Habitat map (from survey)						
	English Channel outburst flood features	BS 29 English Channel outburst flood features	Geological features								High	This is an extremely large extensive feature which would require most of the English Channel part of the southern North Sea to be rMCZ. The areas which are covered by rMCZs (Offshore Overfalls BS_17 & East Meridian BS_29) may be adequate to be representative of the feature.	High		Geological
	Subtidal sands and gravels	BS 29 HOCI_21	FOCI habitat	MB102	1 MB102 point on most western side of the site						Low	One record available	Low	One record available	
Ross worm (Sabellaria spinulosa) reefs	BS 29 HOCI_16	FOCI habitat	EA database	No records fall within in this site. However a record was on the North West boundary line.						Low	No records fall within in this site. However a record was on the North West boundary line.	Low		Can't find records of feature within in the site.	
Subtidal sands and gravels	BS 29 HOCI_21	FOCI habitat	Marine recorder							High	1 MB102 point on most western side of the site and 4 records of SS.SCS across the site	Low	4 records of SS.SCS only 2 are within the recommended feature extent		
Kentish Knock East	A5.1 Subtidal coarse sediment	BS 30 A5.1	BSH	Combined MESH/UKSeaMap	1 data point from the GB001038 - Outer Thames REC survey identifying A5.1			82	Habitat map	Mod	Presence of parent feature supported by ground-truthed data more than 90% agreement Multiple records available.	Low	Parent Sample data covering less than 50% of the feature		
				BGS data points											

				Cefas data mining	Several points from the CEFAS data mining are at a single lat long and identify different A5 habitats (A5.1 , A5.2, A5.4) on the extent area for A5.1									
Kentish Knock East	A5.2 Subtidal sand	BS 30 A5.2	BSH	Cefas data mining					Mod	Presence of parent feature supported by ground-truthed data. Multiple records available.	Low	Parent Sample data covering less than 50% of the feature		
				Thames Rec	GB001038 - Outer Thames REC :1 data point for SS.SCS									
				Combined MESH/UKSeaMap			82	Habitat map						
A5.4 Subtidal mixed sediments	BS 30 A5.4	BSH	Cefas data mining	Several points at this lat long identify different A5 habitats (A5.1 , A5.2, A5.4) on the extent area for A5.1				Mod	Presence of parent feature supported by ground-truthed data. Multiple records available.	Low	Parent sample data covering less than 50% of the feature			
			Combined MESH/UKSeaMap	GB001038 - Outer Thames REC			82					Habitat map		
Inner Bank	A3.2 Moderate energy infralittoral rock	BS 31 A3.2	BSH	Combined MESH/UKSeaMap	Mesh			69	Low	Modelled data available. However during stakeholder groups BGS commented they were very sceptical over the presence.	Low			
				Combined MESH/UKSeaMap	UKSeaMap			UKSeamap Confidence Assessment				0-70 range	Habitat map	
	A5.2 Subtidal sand	BS 31 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap			UKSeamap Confidence Assessment	0-70 range	High	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey)	Low	Sample data covering less than 50% of the recommended feature	REC data covers more than 50% of the site. There is a small section that isn't covered by the REC data and that it covered by Combined MESH/UKSeaMap. GB00041 a habitat map for this are
				Cefas data mining	3 record of A5.2									
MALSF REC	4 records					Habitat map (from survey)								
A4.2 Moderate energy circalittoral rock		BSH	Cefas data mining	3 A5.4				Low	Modelled data available.	Low	Modelled data available.	Conflicting determination issues. REC data covers more than 50% of the site There is a small section that isn't covered by the REC data and that it covered by Combined MESH/UKSeaMap.		
			Marine Recorder	18 SS.SCS (concentrated in a small area)										

				MALSF REC	4 records no data			69	Habitat map							
				Combined MESH/UKSeaMap	UKSeaMap			UKSeamap Confidence Assessment	0-70 range	Habitat map						
Inner Bank	A5.1 Subtidal coarse sediment		BSH	Cefas data mining	2 A5.1 both on extent A4.2						High	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey)	Low	Sample data covering less than 50% of the recommended feature	Conflicting data information from 2 habitat maps	
				Marine Recorder	18 records of SS.SCS (concentrated in a small area on A4.2) , 2 records of A5.1 both on extent A4.2											
				Combined MESH/UKSeaMap	UKSeaMap			UKSeamap Confidence Assessment	0-70 range	Habitat map						
	Native Oyster (Ostrea edulis) beds	BS 31 HOCl_14	FOCI habitat	CEFAS	One record from 1999. This is regularly survey area and has been found to be absence since this record	1999					No confidence	One record from 1999. This is regularly survey area and has been found to be absence since this record	No confidence			
	Native Oyster (Ostrea edulis)	BS 31 SOCI_22	FOCI species	MB102	One record from 1999. This is regularly survey area and has been found to be absence since this record	1999					No confidence	One record from 1999. This is regularly survey area and has been found to be absence since this record	No confidence			
Dolphin Head	A4.1 High energy circalittoral rock	BS RA1 A4.1	BSH	Combined MESH/UKSeaMap	UKSeaMap				0	Habitat map	Low	One sample point not within the recommended feature extent	Low	One sample point not within the recommended feature extent		
				MALSF REC	MRMIT600000001C (Central English Channel)											
	A4.2 Moderate energy circalittoral rock	BS RA1 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap					0	Habitat map	Low	Modelled data from the MALSF REC Habitat map from survey covering 100% of the site but not groundtruth data are within the site	Low	Modelled data from the MALSF REC Habitat map from survey covering 100% of the site but not groundtruth data are within the site	
				MALSF REC												
	A5.4 Subtidal mixed sediments	BS RA1 A5.4	BSH	Cefas data mining								Mod	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey). Less than 50 agreement.	Low	Sample data covering less than 50% of the recommended feature	

				Combined MESH/UKSeaMap	UKSeaMap	2006/2005		0	Habitat map				
				MALSF REC	8 Records support the feature presence however 8 also record A5.1				Habitat map (from survey)				
Dolphin Head	A5.4 Subtidal mixed sediments cont.			Marine recorder	22 records suport SS.SMX and 22 recorded SS.SCS: MRMIT6000000007C.02, MRMIT6000000007C.03, MRMIT6000000007C.04, MRMIT6000000007C.05, MRMIT6000000007C.06, MRMIT6000000007C.07, MRMIT6000000007C.08, MRMIT6000000007C.09, MRMIT6000000007C.10, MRMIT6000000007C.11, MRMIT6000000007C.12, MRMIT6000000007C.13, MRMIT6000000007C.14, MRMIT6000000007C.15, MRMIT6000000007C.16, MRMIT6000000007C.17, MRMIT6000000007C.18, MRMIT6000000007C.19, MRMIT6000000007C.20, MRMIT6000000007C.21, MRMIT6000000007C.22, MRMIT6000000007C.23				Photography - underwater				
	ross worm (Sabellaria spinulosa) reefs	BS RA 10 HOCI_16	FOCI habitat							Low	Data not available as recommended in the MCZ final report	Low	No records fall within in this site
	subtidal sands and gravels	BS RA 10 HOCI_21	FOCI habitat	Cefas data mining	6 habitat points A5.1. No records fall within in the recommended feature within the site, but are within the site.	2006/2005				Low	No records fall within in the recommended feature within the site, but are within the site.	Low	No records fall within in the recommended feature within the site however the SAD from BS displays data
Wight-Barfleur	A4.1 High energy ciralittoral rock	BS RA 14 A4.1	BSH							Low	Modelled data available.	Low	Modelled data available.
	A5.1 Subtidal coarse sediment	BS RA 14 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	A5.4 Subtidal mixed sediments	BS RA 14 A5.4	BSH							Low	Modelled data available.	Low	Modelled data available.

	subtidal sands and gravels	BS RA 14 HOCl_21	FOCI habitat	MB102							Low	Modelled data available.	Low	Modelled data available.	
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Table 229 Finding Sanctuary Offshore Sites

Site name	Feature	Feature code	Feature type	Data_Source	Data source information	Date collected (when relevant)	QA information available (please note these are not comparable between data sources)	QA or Confidence A for habitat maps	Data Type	Presence Confidence	Presence Justification	Extent Confidence	Extent Justification
The Canyons	A5.1 Subtidal coarse sediment	FS 01 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data only	Low	Modelled data only
	A5.2 Subtidal sand	FS 01 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data only	Low	Modelled data only
	A6 Deep-sea bed		BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	High	The MESH South-West approaches canyons habitat map is based on survey data, including acoustic and biological-ground-truthing, and has a confidence score >58%. Polygons for the deep-sea bed broad-scale habitat contain biological validation samples. A6 extent is defined by the bathymetry which is well defined.	High	The MESH South-West approaches canyons habitat map covers less than 50% of the recommended location for the deep-sea bed broad-scale habitat, with the remainder of the feature covered by UKSeamap 2010. However A6 is defined by the bathymetry which is well defined The MESH South-West approaches canyons habitat map covers less than 50% of the recommended location for the deep-sea bed broad-scale habitat, with the remainder of the feature covered by UKSeamap 2010. However A6 is mainly defined by the bathymetry which is well defined
				JNCC/MESH Canyons Survey Data (GUI: GB000971)	MESH		MESH confidence assessment	83	Habitat map				
	Cold-water coral reefs	FS 01 HOCl_2	FOCI habitat	JNCC/MESH Canyons Survey Data (GUI: GB000971)	MESH	2007	MESH confidence assessment	83	Habitat map	High	The MESH South-West approaches canyons habitat map is based on survey data, including acoustic and biological-ground-truthing, and has a confidence score >58%. Polygons for cold water coral reefs contain biological validation samples.	High	The MESH South-West approaches canyons habitat map covers 100% of the recommended location for cold water coral reefs.
South-West Deeps (West)	A5.1 Subtidal coarse sediment	FS 02 A5.1	BSH	BGS data points	10 points recording A5.1			0		Mod	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement	Low	Sample data covering less than 50% of the feature however this has been reduced in confidence due to the limited number of points
	A5.2 Subtidal sand	FS 02 A5.2	BSH	BGS data points	55 points recording A5.2			0		Mod	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement	Mod	Sample data covering less than 50% of the feature due to the number of points vs the large area of the recommended feature
	A5.4 Subtidal mixed sediments	FS 02 A5.4	BSH	BGS data points	4 points recording A5.4			0		Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Low	Sample data covering less than 50% of the feature however this has been reduced in confidence due to the limited number of points

South-West Deep (West)	Celtic sea relict sandbanks	FS 02 Celtic sea relict sandbanks	Geological features	MB102	Tappin et al 2007, rMCZ overlaps several examples of this feature and is contained in South-West deeps (west and east) sites				MB102	High	rMCZ overlaps several examples of this feature and is contained in South-West deeps (west and east) sites	High	
South-West Deep (East)	A5.1 Subtidal coarse sediment	FS 03 A5.1	BSH	BGS data points	77 points A5.2 across the site	1979				Low	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Low	Sample data covering less than 50% of the feature
	A5.2 Subtidal sand	FS 03 A5.2	BSH	BGS data points	155 points A5.1 across the site	1979				Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Low	Sample data covering less than 50% of the feature
	A6 Deep-sea bed	FS 03 A6	BSH	Astrium Bathymetry - Defra contract	Broad Scale Habitat A6 is defined by the bathymetry contour which in this case is well defined by the Astrium bathymetry layer that covers 100% of the feature.					High	Broad Scale Habitat A6 is defined by the bathymetry contour which in this case is well defined by the Astrium bathymetry layer that covers 100% of the feature.	High	Broad Scale Habitat A6 is defined by the bathymetry contour which in this case is well defined by the Astrium bathymetry layer that covers 100% of the feature.
	Celtic sea relict sandbanks	FS 03 Celtic sea relict sandbanks	Geological features	MB102	Tappin et al 2007, rMCZ overlaps several examples of this feature and is contained in South-West deeps (west and east) sites				MB102	High	rMCZ overlaps several examples of this feature and is contained in South-West deeps (west and east) sites	High	
North-West of Jones Bank	A5.1 Subtidal coarse sediment	FS 04 A5.1	BSH	BGS data points	1 data point			0	Habitat map	Low		Low	
	A5.2 Subtidal sand	FS 04 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map				
	A5.3 Subtidal mud	FS 04 A5.3	BSH	BGS data points	15 data points across the feature A5.1			0	Habitat map	Low	Modelled data available.	Low	Modelled data available.
Greater Haig Fras	A4.2 Moderate energy circalittoral rock	FS 05 A4.2	BSH	SAC designation	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Haig Fras. Part of the data acquisition for the MCZ process may identify new areas outside of the current SAC boundary that may be Annex 1 reef, these will be investigated and will be considered for inclusion within the Haig Fras SAC					High	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Haig Fras. Part of the data acquisition for the MCZ process may identify new areas outside of the current SAC boundary that may be Annex 1 reef, these will be investigated and will be considered for inclusion within the Haig Fras SAC	High	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Haig Fras. Part of the data acquisition for the MCZ process may identify new areas outside of the current SAC boundary that may be Annex 1 reef, these will be investigated and will be considered for inclusion within the Haig Fras SAC
				Combined MESH/UKSeaMap	UKSeaMap		UKSeaMap confidence	0-70 Range	Habitat map				

Greater Haig Fras	A5.1 Subtidal coarse sediment	FS 05 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of the parent feature (soft sediment) is support by the Natura 2000 site identification work where a survey point and survey quality multibeam and back scatter have indicated soft sediment.	Low	Modelled data available.
	A5.2 Subtidal sand	FS 05 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of the parent feature (soft sediment) is support by the Natura 2000 site identification work where a survey point and survey quality multibeam and back scatter have indicated soft sediment.	Low	Modelled data available.
	A5.3 Subtidal mud	FS 05 A5.3	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of the parent feature (soft sediment) is support by the Natura 2000 site identification work where a survey point and survey quality multibeam and back scatter have indicated soft sediment.	Low	Modelled data available.
	A5.4 Subtidal mixed sediments	FS 05 A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of the parent feature (soft sediment) is support by the Natura 2000 site identification work where a survey point and survey quality multibeam and back scatter have indicated soft sediment.	Low	Modelled data available.
	Haig Fras rock complex	FS 05 Haig Fras rock complex	Geological features	MB102						High	Presence of the feature is support by the Natura 2000 site identification work and the location of the Haig Fras SAC	High	Presence of the feature is support by the Natura 2000 site identification work and the location of the Haig Fras SAC
	Fragile sponge & anthozoan communities on subtidal rocky habitats	FS 05 HOCl_7	FOCI habitat	The presence of this feature outside the SAC boundaries is to be confirmed. No records exist in our GIS data layers, so the feature is not listed on the tables below.						Low	Modelled data available.	Low	Modelled data available.
East of Jones Bank	A4.2 Moderate energy circalittoral rock	FS 06 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	A5.2 Subtidal sand	FS 06 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	A5.3 Subtidal mud	FS 06 A5.3	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
East of Haig Fras	A4.2 Moderate energy circalittoral rock	FS 07 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	A5.1 Subtidal coarse sediment	FS 07 A5.1	BSH	BGS data points	6 points recording A5.1					Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Low	Sample data covering less than 50% of the feature, limited number of points

East of Haig Fras	A5.2 Subtidal sand	FS 07 A5.2	BSH	BGS data points	6 points recording A5.2					Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Low	Sample data covering less than 50% of the feature, limited number of points
North-East of Haig Fras	A5.1 Subtidal coarse sediment	FS 08 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available. And 1 data point available	Low	Modelled data available. And 1 data point available
	A5.2 Subtidal sand	FS 08 A5.2	BSH	BGS data points	11 point A5.2					Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Low	Sample data covering less than 50% of the feature, limited number of points
	A5.3 Subtidal mud	FS 08 A5.3	BSH	BGS data points	5 points A5.3				Ground-truth	Mod	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement	Low	Sample data covering less than 50% of the feature, limited number of points
	A5.4 Subtidal mixed sediments	FS 08 A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available. And 1 data point available	Low	Modelled data available. And 1 data point available
South of Celtic Deep	A5.1 Subtidal coarse sediment	FS 09 A5.1	BSH	BGS data points	12 records A5.1					Mod	Presence of feature supported by interpreted groundtruthing data with More than 90% agreement	Low	Sample data covering less than 50% of the feature, limited number of points
	A5.2 Subtidal sand	FS 09 A5.2	BSH	BGS data points	Sample data covering less than 50% of the feature, limited number of points					Mod	Presence of feature supported by interpreted groundtruthing data with More than 90% agreement	Low	
	A5.3 Subtidal mud	FS 09 A5.3	BSH	BGS data points	Modelled data available. And 1 data point available					Low	Modelled data available and one record available	Low	
	A5.4 Subtidal mixed sediments	FS 09 A5.4	BSH	BGS data points	4 records					Mod	Presence of feature supported by interpreted groundtruthing data with More than 90% agreement	Low	Sample data covering less than 50% of the feature, limited number of points
Celtic Deep	A5.3 Subtidal mud	FS 10 A5.3	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	High	Presence of feature supported by interpreted ground-truthing data	Mod	Sample data covering less than 50% of the recommended feature

Celtic Deep	Mud habitats in deep water	FS 10 HOCl_13	FOCI habitat	MB102	MRCCW16900000002, MRCCW169000000A3.01, MRCCW169000000A1.01, MRCCW1690000009F.01, MRCCW1690000001D.01, MRCCW1690000001C.01, MRCCW1690000001B.01, MRCCW1690000001A.01, MRCCW16900000019.01, MRCCW169000000A2.01, 25x data points of subtidal mud (SS.Smu). 11 data points are from 2005. The rest are older than 12 years.JNCCMNCR10000634, JNCCMNCR10322647, JNCCMNCR10322686, JNCCMNCR10322724					High	Presence of feature supported by interpreted ground-truthing data	Mod	Sample data covering less than 50% of the recommended feature
				GB000039 - Benthic Biodiversity in the Southern Irish Sea 2: South-West Irish Sea Survey (SWISS)	GB000039 - Benthic Biodiversity in the Southern Irish Sea 2: South-West Irish Sea Survey (SWISS)								
East of Celtic Deep	A5.1 Subtidal coarse sediment	FS 11 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	No evidence assessment was carried out	No evidence assessment was carried out on this feature. See Sections 4.2 and 5.2 for further details.	No evidence assessment was carried out	No evidence assessment was carried out on this feature. See Sections 4.2 and 5.2 for further details.
	A5.2 Subtidal sand	FS 11 A5.2	BSH	BGS data points	5 records of A5.2					Mod	Presence of feature supported by interpreted ground-truthing data with More than 90% agreement	Low	Sample data covering less than 50% of the feature, Limited data points available
	A5.3 Subtidal mud	FS 11 A5.3	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
Marine Institute Nephrops Survey - Celtic Sea				Mud habitat by the presence of nephrops (63 sample points - see comments section). >90% agreement in habitat type. (N.B. these records are not biotope-tagged)									
Western Channel	A4.2 Moderate energy circalittoral rock	FS 12 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	A5.1 Subtidal coarse sediment	FS 12 A5.1	BSH	BGS data points	15 records of A5.1		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of feature supported by interpreted ground-truthing data with more than 90% agreement	Low	Sample data covering less than 50% of the feature, limited points available
	A5.4 Subtidal mixed sediments	FS 12 A5.4	BSH	Combined MESH/UKSeaMap	6 records		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of feature supported by interpreted ground-truthing data with more than 90% agreement	Low	Sample data covering less than 50% of the feature, limited points available

South of the Isles of Scilly	A5.1 Subtidal coarse sediment	FS 13 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	A5.2 Subtidal sand	FS 13 A5.2	BSH	BGS data points	2 records of A5.2 and 2 of A5.1		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
South Dorset	A4.1 High energy circalittoral rock	FS 16 A4.1	BSH	Marine Recorder	MRMIT600000001C 2 records for CR.MCR.SfR across the recommended feature support the presence of a parent feature. However there is less than 90% agreement with other one data point for SS.SCS and one for A5.4. More data would be needed to verify this area.					Low	Could be patchy. Less than 50% agreement in habitat type suggested by ground-truthing records	Low	Sample data covering less than 50% of the recommended feature and of low presence confidence
South Dorset	A4.2 Moderate energy circalittoral rock	FS 16 A4.2	BSH	Marine Recorder	MRMIT600000001C, 2 occurrence records of SS.SCS do not support the feature as recommended within the site. However 3 records for CR.MCR.SfR are recorded across the site. More data would be needed to verify this area.					Low	Could be patchy. Less than 50% agreement in habitat type suggested by ground-truthing records	Low	Sample data covering less than 50% of the recommended feature and of low presence confidence
	A5.1 Subtidal coarse sediment	FS 16 A5.1	BSH	Marine Recorder	MRMIT600000001C : 4 records for SS.SCS are recorded across the site however these do not occur on the recommended feature extent from the regional projects and only modelled data is available					Low	Only modelled data is available. 4 records for SS.SCS are recorded across the site however these do not occur on the recommended feature extent from the regional projects and only modelled data is available. More data would be needed to verify this area.	Low	The records are not found on the recommended feature extent.
	A5.4 Subtidal mixed sediments	FS 16 A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range		Low	Modelled data available.	Low	Modelled data available.
	Subtidal chalk	FS 16 HOCI_20	FOCI habitat	MB102	MPALAYERS000207, 4 records for subtidal chalk	2008			Video analysis	High	Presence of feature supported by interpreted ground-truthing data	Mod	Finding Sanctuary only had point data and did not mark extent of the feature. However, we have high confidence that the 4 points are correct.
South-East of Falmouth	A5.1 Subtidal coarse sediment	FS 30 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	A5.2 Subtidal sand	FS 30 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.

Cape Bank	A4.2 Moderate energy circalittoral rock	FS 36 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Three records of SS.SCS on the recommended extent for this feature. Only modelled data available for the extent outside the existing SAC that is not protected. Several records of CR.MCR have been recorded outside the recommended feature	Low	
				Marine Recorder	MRNE010200000237.06, 3 records of SS.SCS on the recommended extent for this feature. Only modelled data available for the extent outside the existing SAC that is not protected. Several records of CR.MCR have been recorded outside the recommended feature				Video - underwater (drop-down)				
	A5.1 Subtidal coarse sediment	FS 36 A5.1	BSH	Marine Recorder	23 occurrence records of SS.SCS or A5.1 within the recommended feature extent with more than 90% agreement.		UKSeamap Confidence Assessment	0-70 range	Ground truthing	High	Presence of feature supported by interpreted ground-truthing data	Mod	Multiple records cover less than 50% of the recommended feature extent
Palinurus elephas	FS 36 SOCI_24	FOCI species	MB102							Mod	Species presence supported by multiple records, with at least one record from between 6 and 12 years old	Low	Two records with no distribution information
			MB102 species foci	MRNE010200000237.06, MRNE01020000006, 2 data points, at least one record between 6 and 12 years	1993 and 2007								
			Marine Recorder	MRMLN00100000CA2.01			Unknown						
The Canyons	A6 Deep-sea bed	FS RA 01 A6	BSH	Combined MESH/UKSeaMap	UKSeaMap			0	Habitat map	High	The MESH South-West approaches canyons habitat map is based on survey data, including acoustic and biological-ground-truthing, and has a confidence score >58%. Polygons for the deep-sea bed broad-scale habitat contain biological validation samples.	High	The MESH South-West approaches canyons habitat map covers 100% of the recommended location for the deep-sea bed broad-scale habitat.
	Cold-water coral reefs	FS RA 01 HOCI_2	FOCI habitat	JNCC/MESH Canyons Survey Data (GUI: GB000971)		2007	MESH confidence assessment	83	Habitat map	High	The MESH South-West approaches canyons habitat map is based on survey data, including acoustic and biological-ground-truthing, and has a confidence score >58%.	High	The MESH South-West approaches canyons habitat map covers 100% of the recommended location.
Greater Haig Fras	A4.2 Moderate energy circalittoral rock	FS RA 02 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	High	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Haig Fras. Part of the data acquisition for the MCZ process may identify new areas outside of the current SAC boundary that may be Annex 1 reef, these will be investigated and will be considered for inclusion within the Haig Fras SAC	High	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Haig Fras. Part of the data acquisition for the MCZ process may identify new areas outside of the current SAC boundary that may be Annex 1 reef, these will be investigated and will be considered for inclusion within the Haig Fras SAC

Greater Haig Fras	A5.1 Subtidal coarse sediment	FS RA 02 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of the parent feature (soft sediment) is support by the Natura 2000 site identification work where a survey point and survey quality multibeam and back scatter have indicated soft sediment.	Low	Modelled data available.
	A5.2 Subtidal sand	FS RA 02 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of the parent feature (soft sediment) is support by the Natura 2000 site identification work where a survey point and survey quality multibeam and back scatter have indicated soft sediment.	Low	Modelled data available.
	A5.3 Subtidal mud	FS RA 02 A5.3	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of the parent feature (soft sediment) is support by the Natura 2000 site identification work where a survey point and survey quality multibeam and back scatter have indicated soft sediment.	Low	Modelled data available.
	A5.4 Subtidal mixed sediments	FS RA 02 A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of the parent feature (soft sediment) is support by the Natura 2000 site identification work where a survey point and survey quality multibeam and back scatter have indicated soft sediment.	Low	Modelled data available.
Celtic Deep	A5.3 Subtidal mud	FS RA 03 A5.3	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	High	Presence of feature supported by interpreted ground-truthing data	Mod	Sample data covering less than 50% of the recommended feature
	Mud habitats in deep water	FS RA 03 HOCl_13	FOCI habitat	MB102	MRCCW16900000002, MRCCW169000000A3.01, MRCCW169000000A1.01, MRCCW1690000009F.01, MRCCW1690000001D.01, MRCCW1690000001C.01, MRCCW1690000001B.01, MRCCW1690000001A.01, MRCCW16900000019.01, MRCCW169000000A2.01, JNCCMNCR10000634, JNCCMNCR10322647, JNCCMNCR10322686, JNCCMNCR10322724		UKSeamap Confidence Assessment	0-70 range	Habitat map	High	Presence of feature supported by interpreted ground-truthing data	Mod	Sample data covering less than 50% of the recommended feature
South Dorset	A4.1 High energy circlittoral rock	FS RA 04 A4.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Less than 50% agreement in habitat type suggested by ground-truthing records	Low	Sample data covering less than 50% of the recommended feature and of low presence confidence

South Dorset	A4.2 Moderate energy circalittoral rock	FS RA 04 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap, Available evidence conflicts with habitat type. However records for CR.MCR.SfR across the site however these do not occur on the recommended feature extent from the regional project. 1 record of SS.SCS occurs within the recommended feature.		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Less than 50% agreement in habitat type suggested by ground-truthing records	Low	Sample data covering less than 50% of the recommended feature and of low presence confidence
	A5.4 Subtidal mixed sediments	FS RA 04 A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	Subtidal chalk	FS RA 04 HOCl_20	FOCI habitat	MB102	MPALAYERS000207	2008			Video analysis	High	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement.	Mod	Finding Sanctuary only had point data and did not mark extent of the feature. However, we have high confidence on the presence due to the ground-truthing data available.
Cape Bank	A3.1 High energy infralittoral rock	FS RA 12 A3.1	BSH	Marine Recorder	Natural England Cape Bank Annex I habitat survey – run by Cefas, multibeam corridors, drop down video				Habitat map	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC
	A3.2 Moderate energy infralittoral rock	FS RA 12 A3.2	BSH	Marine Recorder	Natural England Cape Bank Annex I habitat survey – run by Cefas, multibeam corridors, drop down video				Habitat map	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC
	A4.1 High energy circalittoral rock	FS RA 12 A4.1	BSH	Marine Recorder	Natural England Cape Bank Annex I habitat survey – run by Cefas, multibeam corridors, drop down video				Habitat map	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC
	A4.2 Moderate energy circalittoral rock	FS RA 12 A4.2	BSH	Marine Recorder	Natural England Cape Bank Annex I habitat survey – run by Cefas, multibeam corridors, drop down video		UKSeamap Confidence Assessment		Habitat map	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC
	A5.1 Subtidal coarse sediment	FS RA 12 A5.1	BSH	Marine Recorder	Natural England Cape Bank Annex I habitat survey – run by Cefas, multibeam corridors, drop down video				Habitat map	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC	High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and the presence of Cape Bank SAC

Cape Bank	Palinurus elephas	FS RA 12 SOCI_24	FOCI species	There are no records in our spatial datasets of these species within the boundaries of this site, but a recent NE SAC survey (Natural England, 2010) confirmed the presence of both species on Cape Bank. We therefore assume these species are represented						Mod	There are no records in our spatial datasets of these species within the boundaries of this site, but a recent NE SAC survey (Natural England, 2010) confirmed the presence of both species on Cape Bank. We therefore assume these species are represented	Low	There are no records in our spatial datasets of these species within the boundaries of this site, but a recent NE SAC survey (Natural England, 2010) confirmed the presence of both species on Cape Bank. We therefore assume these species are represented
	Eunicella verrucosa7	FS RA 12 SOCI_8	FOCI species	There are no records in our spatial datasets of these species within the boundaries of this site, but a recent NE SAC survey (Natural England, 2010) confirmed the presence of both species on Cape Bank. We therefore assume these species are represented						Mod	There are no records in our spatial datasets of these species within the boundaries of this site, but a recent NE SAC survey (Natural England, 2010) confirmed the presence of both species on Cape Bank. We therefore assume these species are represented	Low	There are no records in our spatial datasets of these species within the boundaries of this site, but a recent NE SAC survey (Natural England, 2010) confirmed the presence of both species on Cape Bank. We therefore assume these species are represented

Table 230 Irish Sea Conservation Zones Project Offshore Sites

Site name	Feature	Feature code	Feature type	Data_Source	Data source information	Date collected (when relevant)	QA information available (please note these are not comparable between data sources)	QA or Confidence A for habitat maps	Data Type	Presence Confidence	Presence Justification	Extent Confidence	Extent Justification	Comments
Mud Hole	A5.3 Subtidal mud	ISCZ 01 A5.3	BSH	BGS data points	Presence of parent feature supported by ground-truthed data. Multiple records available. 3 BSG points (2 support feature at EUNIS level 3 and 1 supports parent feature only). Also, 2 data points recording mud on a survey in 1997, HUGHES, D.J. & ATKINSON, R.J.S. 1997. Towed video survey of the megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association. 77 635-653. & LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the ISCZ Project Team and Regional Stakeholder Group.			0	Habitat map	High	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey)	Mod	Sample data covering less than 50% of the recommended feature	
				LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the ISCZ Project Team and Regional Stakeholder Group.				Report						
	Mud habitats in deep water	ISCZ 01 HOCl_13	FOCI habitat	LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the ISCZ Project Team and Regional Stakeholder Group.					Report		Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey)	Mod	Sample data covering less than 50% of the recommended feature	
Mud Hole	Mud habitats in deep water cont.			BGS data points	Presence of feature supported by ground-truthed data. Multiple records available. 3 BSG points (2 support feature at EUNIS level 3 and 1 supports parent feature only). Also, 2 data points recording mud on a survey in 1997, HUGHES, D.J. & ATKINSON, R.J.S. 1997. Towed video survey of the megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association. 77 635-653. & LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the ISCZ Project Team and Regional Stakeholder Group.			0	Habitat map					

	Sea-pen and burrowing megafauna communities	ISCZ 01 HOCl_18	FOCI habitat	HUGHES, D.J. & ATKINSON, R.J.S. 1997. Towed video survey of the megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association. 77 635-653.	2 data points recording mud on a survey in 1997, HUGHES, D.J. & ATKINSON, R.J.S. 1997. Towed video survey of the megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association. 77 635-653. & LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the ISCZ Project Team and Regional Stakeholder Group.					High	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey)	Low	Limited number of sample Points		
				LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the ISCZ Project Team and Regional Stakeholder Group.					Report						
West of Walney	A5.3 Subtidal mud	ISCZ 02 A5.3	BSH	Combined MESH/UKSeaMap	UKSeaMap			UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement. Moderate confidence only due to use of BGS data points.	Mod	Sample data distributed across more than 50% of the recommended feature. Moderate confidence only due to use of BGS data points.	
				BGS data points	All of which support the feature.				Data points						
West of Walney	Mud habitats in deep water	ISCZ 02 HOCl_13	FOCI habitat	Combined MESH/UKSeaMap	UKSeaMap			UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement. Moderate confidence only due to use of BGS data points.	Mod	Sample data distributed across more than 50% of the recommended feature. Moderate confidence only due to use of BGS data points.	
		BGS data points													
	Sea-pen and burrowing megafauna communities	ISCZ 02 HOCl_18	FOCI habitat	HUGHES, D.J. & ATKINSON, R.J.S. 1997. Towed video survey of the megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association. 77 635-653.							Low	Modelled and local information data are available.	Low	Modelled data available. And 1 data point available	

				LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group.										
				SWIFT, D.J. 1993. The macrobenthic infauna off Sellafield (north-eastern Irish Sea) with special reference to bioturbation. Journal of the Marine Biological Association, 73, 143-162.	no data points provided from these									
Walney and West Duddon Sands Co Location Zone	A5.2 Subtidal sand	ISCZ 02a A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled and local information data are available.	Low	Modelled data available. And 1 data point available	
	A5.3 Subtidal mud	ISCZ 02a A5.3	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map					
Ormonde Co Location Zone	Mud habitats in deep water	ISCZ 02b HO CI_13	FOCI habitat	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled and local information data are available.	Low	Modelled data available. And 1 data point available	
	Sea-pen and burrowing megafauna communities	ISCZ 02b HO CI_18	FOCI habitat	HUGHES, D.J. & ATKINSON, R.J.S. 1997. Towed video survey of the megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association. 77 635-653. LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the IS CZ Project Team and Regional Stakeholder Group.	No data points provided from these					Low	Modelled and local information data are available.	Low	Modelled data available. And 1 data point available	

				SWIFT, D.J. 1993. The macrobenthic infauna off Sellafield (north-eastern Irish Sea) with special reference to bioturbation. Journal of the Marine Biological Association, 73, 143-162.	No data points provided from these									
North St George's Channel	A4.1 High energy circalittoral rock	ISCZ 03 A4.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.	
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu	Habmap		N/A superseded by UKSeamap		Habitat map					
	A4.2 Moderate energy circalittoral rock	ISCZ 03 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map					
North St George's Channel	A4.2 Moderate energy circalittoral rock cont.			Marine Recorder	JNCC/CCW NWA surveys MRMIT60000000031.01, MRMIT60000000031.02, MRMIT60000000031.04, MRMIT60000000031.05, MRMIT60000000031.06, MRMIT60000000031.07, MRMIT60000000031.08, MRMIT60000000031.16	2005			Ground-truth data points	Mod	Presence of feature supported by interpreted ground-truth data with >50% agreement.	Mod	Sample data covering <50% of the feature.	
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu			N/A superseded by UKSeamap							

	A5.1 Subtidal coarse sediment	ISCZ 03 A5.1	BSH	BLYTH-SKYRME, V. LINDENBAUM, C., VERLING, E., VAN LANDEGHEM, K., ROBINSON, K., MACKIE A., & DARBYSHIRE T. (2008) Broad-scale biotope mapping of potential reefs in the Irish Sea (north-west of Anglesey) JNCC Report No. 423.	JNCC Survey			0	Habitat map	High	Presence of feature supported by interpreted ground-truth data with >90% agreement.	Mod	Sample data covering <50% of the feature.
				Irish Sea pilot project	JNCC?				d-truth data				
				Combined MESH/UKSeaMap	UKSeaMap		UKSeaMap Confidence Assessment	0-70 range	Habitat map				
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu			N/A superseded by UKSeaMap						
A5.2 Subtidal Sand	ISCZ 03 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeaMap Confidence Assessment	0-70 range	Habitat map	High	Presence of feature supported by interpreted ground-truth data with >90% agreement.	Low	Sample data covering <50% of the feature. However, the confidence in extent was reduced to low because JNCC survey data contradict part of the extent.	
			Irish Sea pilot project					Ground-truth data points					
North St George's Channel	A5.2 Subtidal Sand cont.		BSH	BLYTH-SKYRME, V. LINDENBAUM, C., VERLING, E., VAN LANDEGHEM, K., ROBINSON, K., MACKIE A., & DARBYSHIRE T. (2008) Broad-scale biotope mapping of potential reefs in the Irish Sea (north-west of Anglesey) JNCC Report No. 423.	JNCC Survey: JNCC survey BLYTH-SKYRME et al. 2008 contradicted small areas of UKSeaMap. However the area was small and of a parent feature to reduce to 'No confidence')		Find out if there was a QA		Habitat map	High	Presence of feature supported by interpreted ground-truth data with >90% agreement.	Low	Sample data distributed across more than 50% of the recommended feature. 2 BSG points
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu			N/A superseded by UKSeaMap						
	A5.4 Subtidal mixed sediments	ISCZ 03 A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeaMap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of feature supported by interpreted groundtruthing data	Mod	Sample data distributed across more than 50% of the recommended feature. 2 BSG points

				Marine Recorder	JNCC/CCW NWA surveys MRCCW16900000002 MRCCW16900000046.01MRCCW16900000002 MRCCW16900000046.02, MRCCW16900000002 MRCCW16900000049.02, MRCCW16900000002 MRCCW16900000049.04, MRCCW16900000002 MRCCW169000000BB.01, MPALAYERS000052									
				MB102	GB000039 - Benthic Biodiversity in the Southern Irish Sea 2: South-West Irish Sea Survey (SWISS)									
	Horse Mussel (Modiolus modiolus) Beds	ISCZ 03 HOCl_9	FOCI habitat	REES, I. (2005) Assessment of the status of horse mussel (Modiolus modiolus) beds in the Irish Sea off NW Anglesey. DTI-SEA 6 Sub-contract report.		2005			groundtruth	Low	Modiolus records insufficient to indicate reef over the North West Anglesey Area of Search, therefore considered by JNCC to be species only)	Low		
				SEA6 Commander Jack video positions	Modiolus records insufficient to indicate reef over the North West Anglesey Area of Search, therefore considered by JNCC to be species only)				groundtruth					
Mid St George's Channel	A4.2 Moderate energy circalittoral rock	ISCZ 04 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeaMap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data (UKSeaMap) and single ground truth point (BGS Rock - polygon available but unclear what feature is found at the sample point within the polygon) available.	Low	Modelled data available.	
	A4.2 Moderate energy circalittoral rock cont.			ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu			N/A superseded by UKSeaMap							
Mid St George's Channel	A5.1 Subtidal coarse sediment	ISCZ 04 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeaMap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of parent feature supported by ground-truthed data.	Mod	Extent of feature supported by ground-truthed data covering <50% of the feature.	

				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeamap								
	A5.2 Subtidal Sand	ISCZ 04 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of parent feature supported by ground truthed data. At EUNIS level 3 there are 2 BSG points supporting the feature, 1 not supporting the feature. All points support parent feature.	Mod	Sample data covering <50% of the feature. At EUNIS level 3 there are 2 BGS points supporting the feature, 1 not supporting the feature. All points support parent feature.		
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeamap								
	A5.4 Subtidal mixed sediments	ISCZ 04 A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.		
	A5.4 Subtidal mixed sediments cont.			ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeamap								
Mid St George's Channel	Subtidal sands and gravels	ISCZ 04 HOCl_21	FOCI habitat	Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Several sample points available across the feature (from different surveys).	Low	Modelled data available.	Disagreement among sample points.	
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeamap								

North of Celtic Deep	A4.2 Moderate energy circalittoral rock	ISCZ 05 A4.2	BSH	ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeamap			Low	Modelled data available.	Low	Modelled data available.
				Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map				
North of Celtic Deep	A5.1 Subtidal coarse sediment	ISCZ 05 A5.1	BSH	ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeamap			Mod	Multiple ground truthing records available and >50% agreement across records. Moderate confidence only because of use of BGS points.	Mod	Multiple ground truthing records available and >50% agreement across records. 9 BGS points all supporting the feature (EUNIS level 3). Marine recorder points cover less than 50% of the feature. BGS points increase coverage but confidence cannot exceed 'Moderate' due to use of BGS data.
North of Celtic Deep	A5.1 Subtidal coarse sediment cont.			MB102	MRCCW1690000002D.01, MRCCW1690000002E.01, MRCCW16900000030.01, MRCCW16900000033.01, MRCCW16900000034.01, MRCCW169000000AD.01, MRCCW169000000AE.01, MRCCW169000000AF.01, MRCCW169000000B0.01, MRCCW169000000BF.01, MRCCW169000000C0.01, MRCCW169000000C2.01, MRCCW169000000C3.01, JNCCMNCR10322620, JNCCMNCR10322620, JNCCMNCR10000634				Mod			
				Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map				

	A5.2 Subtidal Sand	ISCZ 05 A5.2	BSH	ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeamap			Mod	Modelled data available and a single ground truthed record of the feature.	Low	Modelled data available and a single ground truthed record of the feature. Sample data covers <50% of the recommended feature.
				Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map				
	Subtidal sands and gravels	ISCZ 05 HOCl_21	FOCI habitat	Combined MESH/UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Multiple ground truthing records available and >50% agreement across records. Moderate confidence only because of use of BGS points.	Mod	Multiple ground truthing records available and >50% agreement across records. 9 BGS points all supporting the feature (EUNIS level 3). Marine recorder points cover less than 50% of the feature. BGS points increase coverage but confidence cannot exceed 'Moderate' due to use of BGS data.
North of Celtic Deep	Subtidal sands and gravels cont.			MB102	MRCCW1690000002D.01, MRCCW1690000002E.01, MRCCW16900000030.01, MRCCW16900000033.01, MRCCW16900000034.01, MRCCW169000000AD.01, MRCCW169000000AE.01, MRCCW169000000AF.01, MRCCW169000000B0.01, MRCCW169000000BF.01, MRCCW169000000C0.01, MRCCW169000000C2.01, MRCCW169000000C3.01, JNCCMNCr10322620, JNCCMNCr10322620, JNCCMNCr10000634							
	Ocean Quahog (Arctica islandica)	ISCZ 05 SOCI_3	FOCI species	Marine Recorder	634.013.001			Grab - Van Veen	Low	Records of feature are older than 12 years.	Low	No information available
South Rigg	A4.3 Low energy circalittoral rock	ISCZ 06 A4.3	BSH	MELLOR, A. MITCHELL, A., STRONG, J., ROONEY, L., SERVICE, M. 2008 North West Irish Sea mounds: hard and soft substrate habitats. JNCC Report No. 410. Contract Reference No: F90-01-942(8).					Mod	Quantifiable or verifiable evidence to demonstrate presence of 'parent'* feature within EUNIS	Low	Records of A4.1 not A4.3 (6 records of SS.Ssa and 4 records of CR.HCR) Classes as parent feature

				Marine Recorder	Only records of A4.1 not A4.3 (6 records of SS.Ssa and 4 records of CR.HCR) Classes as parent feature	2003					classification hierarchy				
	A5.2 Subtidal Sand			ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu											
	A5.2 Subtidal Sand cont.	ISCZ 06 A5.2	BSH	MELLOR, A. MITCHELL, A., STRONG, J., ROONEY, L., SERVICE, M. 2008 North West Irish Sea mounds: hard and soft substrate habitats. JNCC Report No. 410. Contract Reference No: F90-01-942(8).						Low	Multiple records however are not within the recommended feature extent	Low	Modelled data available.		
	A5.3 Subtidal mud	ISCZ 06 A5.3	BSH	ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu	6 records of SS.Ssa (not within recommended feature and dispersed among 4 points that record CR.HCR	2003									
South Rigg	A5.3 Subtidal mud	ISCZ 06 A5.3	BSH	MELLOR, A. MITCHELL, A., STRONG, J., ROONEY, L., SERVICE, M. 2008 North West Irish Sea mounds: hard and soft substrate habitats. JNCC Report No. 410. Contract Reference No: F90-01-942(8).	Irish Sea survey FRS Aberdeen	3 records of Mud/Sandy mud with megafaunal burrows	1982/1997				High	Quantifiable or verifiable evidence to demonstrate presence of 'parent'* feature within EUNIS classification hierarchy	Low	Parent feature records	Extent of feature was updated by the project using local knowledge removing sections of A5.3, A5.4 and A4.3
				GB000310		2008			65						

	Mud habitats in deep water	ISCZ 06 HOCl_13	FOCI habitat	Irish Sea survey FRS Aberdeen	3 records of Mud/Sandy mud with megafaunal burrows	1982/1997			Video transect	Low	Multiple records however are not within the recommended feature extent	Low	Modelled data available.
				MELLOR, A. MITCHELL, A., STRONG, J., ROONEY, L., SERVICE, M. 2008 North West Irish Sea mounds: hard and soft substrate habitats. JNCC Report No. 410. Contract Reference No: F90-01-942(8).									
	Sea-pen and burrowing megafauna communities	ISCZ 06 HOCl_18	FOCI habitat	MELLOR, A. MITCHELL, A., STRONG, J., ROONEY, L., SERVICE, M. 2008 North West Irish Sea mounds: hard and soft substrate habitats. JNCC Report No. 410. Contract Reference No: F90-01-942(8).									
South Rigg	Sea-pen and burrowing megafauna communities cont.		FOCI habitat	Seapen data supplied by AFBI/ Marine Institute Ireland in Northern Ireland. Data not currently published as of August 2011.	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey).					High	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey).	Mod	Sample data covering less than 50% of the recommended feature and of low presence confidence
				Irish Sea survey FRS Aberdeen	3 records of Mud/Sandy mud with megafaunal burrows	1982/1997			Video transect				
					ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu								
	Ocean Quahog (Arctica islandica)	ISCZ 06 SOCI_3	FOCI species	BUTLER, P. 2009 Establishing the Arctica islandica archive: Development of the definitive shell-based proxy for the North Atlantic shelf seas. PhD thesis, Bangor University.	3 records from 2009	2009				Mod	Species presence supported by multiple records, with at least one record from between 6 and 12 years old, using ground-truthing techniques as described above;	Mod	

Slieve Na Griddle	A4.3 Low energy circalittoral rock	ISCZ 07 A4.3	BSH	CALLAWAY, A., SMYTH, J., BROWN, C.J., QUINN, R., SERVICE, M. & LONG, D.2009. The impact of scour processes on a smothered reef system in the Irish Sea. Estuarine, Coastal and Shelf Science. 84: 409-418.					High	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Pisces Reef. Part of the data acquisition for the MCZ process has identified areas outside of the current pSAC boundary that may be Annex 1 reef, these areas are being investigated and will be considered for inclusion within the Pisces reef complex	High	We are highly confident in the presence and extent of this feature as part of the Natura 2000 SAC Pisces Reef. Part of the data acquisition for the MCZ process has identified areas outside of the current pSAC boundary that may be Annex 1 reef, these areas are being investigated and will be considered for inclusion within the Pisces reef complex
				JNCC (2011) Offshore Special Area of Conservation: Pisces Reef Complex. SAC Selection Assessment. Version 3.0 (17th January 2011).								
				Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map				
Slieve Na Griddle	A5.3 Subtidal mud	ISCZ 07 A5.3	BSH	CALLAWAY, A., SMYTH, J., BROWN, C.J., QUINN, R., SERVICE, M. & LONG, D.2009. The impact of scour processes on a smothered reef system in the Irish Sea. Estuarine, Coastal and Shelf Science. 84: 409-418.					High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and is part of the Pisces Reef complex SAC	Mod	Habitat extent supported by a habitat map (Natura SAC identification work for Pisces reef complex) covering less than 50% of the recommended feature
				BGS data points								
				JNCC (2011) Offshore Special Area of Conservation: Pisces Reef Complex. SAC Selection Assessment. Version 3.0 (17th January 2011).	1 BGS point which only supports the parent feature, not the EUNIS level 3 feature.							
				Combined MESH/UKSeaMap	GB000310 - Irish Sea Pilot: North Channel Peaks: Peaks Area		65	Habitat map				
Mud habitats in deep water		ISCZ 07 HOCl_13	FOCI habitat	CALLAWAY, A., SMYTH, J., BROWN, C.J., QUINN, R., SERVICE, M. & LONG, D.2009. The impact of scour processes on a smothered reef system in the Irish Sea. Estuarine, Coastal and Shelf Science. 84: 409-418.					High	Presence of feature supported by a habitat map with polygons containing biological validation	Mod	Habitat extent supported by a habitat map (Natura SAC identification work for Pisces reef complex) covering less than 50% of

				JNCC (2011) Offshore Special Area of Conservation: Pisces Reef Complex. SAC Selection Assessment. Version 3.0 (17th January 2011).							samples from the Natura SAC identification process and is part of the Pisces Reef complex SAC		the recommended feature	
Mud Hole	A5.3 Subtidal mud	ISCZ RA A A5.3	BSH	BGS data points	1 BSG data point which supports the feature. 2 data points recording mud on a survey in 1997, HUGHES, D.J. & ATKINSON, R.J.S. 1997. Towed video survey of the megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association. 77 635-653. & LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the ISCZ Project Team and Regional Stakeholder Group.			0	Habitat map	High	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey)	Low	Sample data covering less than 50% of the recommended feature	
Mud Hole	Mud habitats in deep water	ISCZ RA A HOCl_13	FOCI habitat	BGS data points	Presence of parent feature supported by ground-truthed data. Multiple records available. 3 data points available (1 BSG data point which supports the feature). (Moderate confidence due to the use of BGS data, see introduction).			0	Habitat map	High	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey)	Low	Sample data covering less than 50% of the recommended feature	
	Sea-pen and burrowing megafauna communities	ISCZ RA A HOCl_18	FOCI habitat	HUGHES, D.J. & ATKINSON, R.J.S. 1997. Towed video survey of the megafaunal bioturbation in the North Eastern Irish Sea. Journal of the Marine Biological Association. 77 635-653.					High	Presence of feature supported by interpreted ground-truthing data (e.g. video, still image, grab, diver survey)	Low	Limited data points		
				LUMB, C., JOHNSTON, M. & BUSSELL, J. 2011. Evidence on the distribution and quality of mud-related features in the Eastern Irish Sea. A paper presented to the ISCZ Project Team and Regional Stakeholder Group.										
				SWIFT, D.J. 1993. The macrobenthic infauna off Sellafield (north-eastern Irish Sea) with special reference to bioturbation. Journal of the Marine Biological Association, 73, 143-162.										

North St George's Channel (1)	A4.1 High energy circalittoral rock	ISCZ RA B A4.1	BSH	Combined MESH/UKSeaMap	UKSeaMap	UKSeaMap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
			ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeaMap							
	A4.2 Moderate energy circalittoral rock	SCZ RA B A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap	UKSeaMap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of feature supported by interpreted ground-truth data with >50% agreement.	Mod	Sample data covering <50% of the feature.
	A4.2 Moderate energy circalittoral rock cont.			ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeaMap						
North St George's Channel (1)	A5.1 Subtidal coarse sediment	ISCZ RA B A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap	UKSeaMap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu	Habmap	N/A superseded by UKSeaMap						
	Subtidal sands and gravels	ISCZ RA B HOCl_21	FOCI habitat	Combined MESH/UKSeaMap	UKSeaMap	UKSeaMap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
				Marine Recorder	JNCC/CCW NWA surveys MRMIT60000000031.01, MRMIT60000000031.02, MRMIT60000000031.04, MRMIT60000000031.05, MRMIT60000000031.06, MRMIT60000000031.07, MRMIT60000000031.08, MRMIT60000000031.16			Photography - underwater				

				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu	Habmap		N/A superseded by UKSeamap							
Mid St George's Channel	A4.2 Moderate energy circalittoral rock	ISCZ RA C A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.	
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu			N/A superseded by UKSeamap							
Mid St George's Channel	A5.1 Subtidal coarse sediment	ISCZ RA C A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.	
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu			N/A superseded by UKSeamap							
	A5.2 Subtidal Sand	ISCZ RA C A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.	
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu			N/A superseded by UKSeamap							
A5.4 Subtidal mixed	ISCZ RA C A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.		

	sediments			ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu			N/A superseded by UKSeamap						
	Subtidal sands and gravels	ISCZ RA C HOCl_21	FOCI habitat	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map				
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu			N/A superseded by UKSeamap			Low	Modelled data available.	Low	Modelled data available.
South Rigg	A5.2 Subtidal Sand	ISCZ RA F A5.2	BSH	MELLOR, A. MITCHELL, A., STRONG, J., ROONEY, L., SERVICE, M. 2008 North West Irish Sea mounds: hard and soft substrate habitats. JNCC Report No. 410. Contract Reference No: F90-01-942(8).									
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu					Low	Records on available within the MCZ and not the feature within the RA	Low	Records on available within the MCZ and not the feature within the RA	
	A5.3 Subtidal mud	ISCZ RA F A5.3	BSH	MELLOR, A. MITCHELL, A., STRONG, J., ROONEY, L., SERVICE, M. 2008 North West Irish Sea mounds: hard and soft substrate habitats. JNCC Report No. 410. Contract Reference No: F90-01-942(8).									
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu					Low	Records on available within the MCZ and not the feature within the RA	Low	Records on available within the MCZ and not the feature within the RA	

	Ocean Quahog (Arctica islandica)	ISCZ RA F SOCI_3	FOCI species	BUTLER, P. 2009 Establishing the Arctica islandica archive: Development of the definitive shell-based proxy for the North Atlantic shelf seas. PhD thesis, Bangor University.	2 records					Mod		Mod	
Slieve Na Griddle	A4.3 Low energy circalittoral rock	ISCZ RA G A4.3	BSH	CALLAWAY, A., SMYTH, J., BROWN, C.J., QUINN, R., SERVICE, M. & LONG, D.2009. The impact of scour processes on a smothered reef system in the Irish Sea. Estuarine, Coastal and Shelf Science. 84: 409-418.									
	A5.3 Subtidal mud	ISCZ RA G A5.3	BSH	JNCC (2011) Offshore Special Area of Conservation: Pisces Reef Complex. SAC Selection Assessment. Version 3.0 (17th January 2011). CALLAWAY, A., SMYTH, J., BROWN, C.J., QUINN, R., SERVICE, M. & LONG, D.2009. The impact of scour processes on a smothered reef system in the Irish Sea. Estuarine, Coastal and Shelf Science. 84: 409-418.					High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and is part of the Pisces Reef complex SAC	High	Habitat extent supported by a habitat map (Natura SAC identification work for Pisces reef complex) covering more than 50% of the recommended feature	
Slieve Na Griddle	A5.3 Subtidal mud cont.			JNCC (2011) Offshore Special Area of Conservation: Pisces Reef Complex. SAC Selection Assessment. Version 3.0 (17th January 2011).					High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and is part of the Pisces Reef complex SAC	High	Habitat extent supported by a habitat map (Natura SAC identification work for Pisces reef complex) covering more than 50% of the recommended feature	
	Mud habitats in deep water	ISCZ RA GHOCI_13	FOCI habitat	CALLAWAY, A., SMYTH, J., BROWN, C.J., QUINN, R., SERVICE, M. & LONG, D.2009. The impact of scour processes on a smothered reef system in the Irish Sea. Estuarine, Coastal and Shelf Science. 84: 409-418. JNCC (2011) Offshore Special Area of Conservation: Pisces Reef Complex. SAC Selection Assessment. Version 3.0 (17th January 2011).					High	Presence of feature supported by a habitat map with polygons containing biological validation samples from the Natura SAC identification process and is part of the Pisces Reef complex SAC	High	Habitat extent supported by a habitat map (Natura SAC identification work for Pisces reef complex) covering more than 50% of the recommended feature	

North St George's Channel (2)	A4.2 Moderate energy circalittoral rock	ISCZ RA S A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map	Mod	Presence of feature supported by interpreted ground-truth data with >50% agreement.	Low	Presence of feature supported by interpreted ground-truth data with >50% agreement. However, there conflicting records from the same location/survey
				Marine Recorder	JNCC/CCW NWA surveys							
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu		N/A superseded by UKSeamap						
	A5.1 Subtidal coarse sediment	ISCZ RA S A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map				
North St George's Channel (2)	A5.1 Subtidal coarse sediment cont.			ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu	Habmap	N/A superseded by UKSeamap			Mod	Presence of feature supported by interpreted ground-truth data with >50% agreement.	Low	Presence of feature supported by interpreted ground-truth data with >50% agreement. However, there conflicting records from the same location/survey
	A5.2 Subtidal Sand	ISCZ RA S A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu	Habmap	N/A superseded by UKSeamap						
A5.4 Subtidal mixed	ISCZ RA S A5.4	BSH	Combined MESH/UKSeaMap	UKSeaMap	UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available. 1 BSG point which supports the	Low	Modelled data available. 1 BSG point which supports the feature.	

	sediments			BGS data points						feature.			
				ROBINSON, K., RAMSAY, K., WILSON, J., MACKIE A., WHEELER, A., O'BEIRN F., LINDENBAUM, C., VAN LANDEGHAM, K., MCBREEN, F., MITCHELL, N. 2007. HABMAP: Habitat Mapping for conservation and management of the southern Irish Sea. Report to the Welsh Eu	Habmap		N/A superseded by UKSeamap						
	A5.6 Subtidal Biogenic Reefs	ISCZ RA S A5.6	BSH	REES, I. (2005) Assessment of the status of horse mussel (<i>Modiolus modiolus</i>) beds in the Irish Sea off NW Anglesey. DTI-SEA 6 Sub-contract report.		2005			None	Modiolus records insufficient to indicate reef (therefore considered by JNCC to be species only)	None	Modiolus records insufficient to indicate reef (therefore considered by JNCC to be species only)	FOCI extent used for Modiolus reef
	Horse Mussel (<i>Modiolus modiolus</i>) Beds	ISCZ RA S HOCl_9	FOCI habitat	REES, I. (2005) Assessment of the status of horse mussel (<i>Modiolus modiolus</i>) beds in the Irish Sea off NW Anglesey. DTI-SEA 6 Sub-contract report.		2005			None	Modiolus records insufficient to indicate reef (therefore considered by JNCC to be species only)	None	Modiolus records insufficient to indicate reef (therefore considered by JNCC to be species only)	

Table 231 Net Gain Offshore Sites

site name	Feature	Feature code	Feature type	Data_Source	Data source information	Date collected (when relevant)	QA information available (please note these are not comparable between data sources)	QA or Confidence A for habitat maps	Data Type	Presence Confidence	Presence Justification	Extent Confidence	Extent Justification	Comments
Orford Inshore	A5.4 Subtidal mixed sediments	NG 01b A5.4	BSH	Combined MESH/UKSeaMap	GB001038 - Outer Thames REC			82	Habitat map	High	Presence of feature shown by a habitat map with polygons containing biological validation samples	High	Presence of feature shown by a habitat map with polygons containing biological validation samples	There are only two multi-beam survey lines and one sample station going through the site. However, the sample data surrounding the site supports the presence of the feature.
Wash Approach	A5.2 Subtidal sand	NG 04 A5.2	BSH	Combined MESH/UKSeaMap	GB000239 - Broadscale remote survey and mapping of the habitats and biota of the Wash, and the Lincolnshire and the north Norfolk coasts			71	Habitat map	High	Presence of feature shown by a habitat map with polygons containing biological validation samples;	Mod	While the MASLF Humber REC habitat map and GB000240 cover 100% of the site, they only agree over less than 50% of the feature. Both have a MESH confidence score of over 58%.	
				Combined MESH/UKSeaMap	GB001100 - Humber REC: MASLF Humber REC habitat map and GB000240 combine record the presence of the feature both have a MESH confidence score of over 58%. 16 points agree with the presence within the site and outside the SAC sandbank feature.			81	Habitat map					
	A5.4 Subtidal mixed sediments	NG 04 A5.4	BSH	Combined MESH/UKSeaMap	GB000239 - Broadscale remote survey and mapping of the habitats and biota of the Wash, and the Lincolnshire and the north Norfolk coasts			71	Habitat map	High	Presence of feature shown by a habitat map with polygons containing biological validation samples;	Mod	MASLF Humber REC habitat map and GB000240 agree with respect to the presence and over 50% of the feature and both have a MESH confidence score of over 58% and cover more than 90% of the feature	Both the REC and MESH agreed with over 50% of the features extent and presence

	A5.4 Subtidal mixed sediments cont.			Combined MESH/UKSeaMap	GB001100 - Humber REC	MASLF Humber REC habitat map and GB000240 agree with the presence and over 50% of the feature and both have a MESH confidence score of over 58% and cover more than 90% of the feature. 11 points agree with the presence within the site and outside the SAC sandbank feature.		81	Habitat map				
Wash Approach	Subtidal sands and gravels	NG 04 HOCl_21	FOCI habitat	Envision - Mesh validation samples	28 records of SS.Ssa & SS.Smx					High	Presence of feature shown by a habitat map with polygons containing biological validation samples;	Mod	Habitat extent supported by a habitat map (from survey)*covering more than 50% of the recommended feature
				MB102	JNCCMNCR10000919, JNCCMNCR10334758, JNCCMNCR10334747, JNCCMNCR10334748, JNCCMNCR10334755, JNCCMNCR10334746, JNCCMNCR10334756, JNCCMNCR10334757, JNCCMNCR10334759, JNCCMNCR10334760, JNCCMNCR10334762, JNCCMNCR10334763, JNCCMNCR10334765, JNCCMNCR10334745, JNCCMNCR10334764, JNCCMNCR10334734, JNCCMNCR10334727, JNCCMNCR10334729, JNCCMNCR10334730, JNCCMNCR10334731, JNCCMNCR10334728, JNCCMNCR10334733, JNCCMNCR10334744, JNCCMNCR10334735, JNCCMNCR10334736, JNCCMNCR10334737, JNCCMNCR10334738, JNCCMNCR10334739, JNCCMNCR10334740, JNCCMNCR10334741, JNCCMNCR10334742, JNCCMNCR10334743, JNCCMNCR10334732								
Wash Approach	Subtidal sands and gravels			MB102	GB000240 - Broadscale remote survey and mapping of the sublittoral habitats and biota of the Wash, and the Lincolnshire and the north Norfolk coasts - lifeforms and species presence			71	Habitat map				

Silver Pit	A5.2 Subtidal sand	NG 06 A5.2	BSH	Combined MESH/UKSeaMap	GB001100 - Humber REC	2011	MESH confidence assessment	81	Habitat map	Mod	MASLF Humber REC habitat map covers 100% of site and has a MESH confidence score of over 58%. However there is complete disagreement between these data sources regarding the presence of the feature. However, there is more than one datum from the REC data supporting this feature.	Mod	MASLF Humber REC habitat map covers 100% of site and has a MESH confidence score of over 58%. However there is complete disagreement between these data sources regarding the presence and extent of the feature. However, there is more than one datum from the REC data supporting this feature. The points are not well distributed across the feature.	GB000240 - Broad scale remote survey and mapping of the sublittoral habitats and biota of the Wash, and the Lincolnshire and the north Norfolk coasts - life forms and species presence and Ukseamap cover this site however the Humber REC has a higher Mesh confidence and covers 100% of the site
	A5.4 Subtidal mixed sediments	NG 06 A5.4	BSH	Combined MESH/UKSeaMap	GB001100 - Humber REC	2011	MESH confidence assessment	81	Habitat map	High	MASLF Humber REC habitat map and GB000240 combined record the presence of the feature (and agree for >50% coverage of feature extend) both have a MESH confidence score of over 58%. There is more than one datum supporting the feature and over 90% agreement among data points.	Mod	MASLF Humber REC habitat map and GB000240 combined record the presence of the feature (and agree for >50% coverage of feature extend) both have a MESH confidence score of over 58%. There is more than one datum supporting the feature and over 90% agreement among data points. Sample data points are not well distributed across the feature.	
	Ross worm (Sabellaria spinulosa) reefs	NG 06 HOCl_16	FOCI habitat	TAPPIN, D.R., PEARCE, B., FITCH, S., DOVE, D., GEARY, B., HILL, J.M., CHAMBERS, C., BATES, R., PINNION, J., DIAZ DOCE, D., GREEN, M., GALLYOT, J., GEORGIU, L., BRUTTO, D., MARZIALETTI, S., HOPLA, E., RAMSAY, E., FIELDING, H. 2011. The Humber Region	GB001100 - Humber REC	2011				Groundtruth sample	High	MASLF Humber REC Sabellaria Spinulosa point data is supported by a habitat map (Humber REC) that covers more than 50% of the recommended feature (the data points from the REC survey directly support the feature)	High	MASLF Humber REC Sabellaria Spinulosa point data is supported by a habitat map (Humber REC) that covers more than 50% of the recommended feature
Silver Pit	Subtidal sands and gravels	NG 06 HOCl_21	FOCI habitat	MB102	GB001100 - Humber REC	2011	MESH confidence assessment	81	Habitat map	Mod	MASLF Humber REC habitat map (A5.4 & A5.2) covers 100% of site and has a MESH confidence score of over 58%. "Subtidal Sands and Gravels" are only equivalent to A5.2 and A5.1 which means there is a disagreement of more than 50% of the recommended feature	Low	MASLF Humber REC habitat map (A5.4 & A5.2) covers 100% of site and has a MESH confidence score of over 58%. "Subtidal Sands and Gravels" are only equivalent to A5.2 and A5.1 which means there is a disagreement of more than 50% of the recommended feature	
Markham's Triangle	A5.1 Subtidal coarse sediment	NG 07 A5.1	BSH	BGS data points	9 points on the recommended feature extent					Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement.	Low	Sample data covering less than 50% of the feature	limited number of bgs points

	A5.2 Subtidal sand	NG 07 A5.2	BSH	BGS data points	4 points three on the recommended feature extent					Mod	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement.	Mod	Sample data covering less than 50% of the feature	limited number of bgs points
Holderness Offshore	A5.1 Subtidal coarse sediment	NG 09 A5.1	BSH	BGS data points	85 A5.1 points across the site					Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Mod	Sample data covering less than 50% of the feature	
				Combined MESH/UKSeaMap	UKSeaMap		UKSeaMap confidence assessment	0-70 range	Habitat map					
				Combined MESH/UKSeaMap	GB001100 - Humber REC: MASLF Humber REC habitat map covers a small part of the recommended feature and has a MESH confidence score of over 58%. The majority is based on modelled data alone. There are no sample point data available.	2011	MESH confidence assessment	81	Habitat map					
	A5.4 Subtidal mixed sediments	NG 09 A5.4	BSH	BGS data points	15 A5.4 points distributed across the site					Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Mod	Sample data covering less than 50% of the feature	
				Combined MESH/UKSeaMap	GB001100 - Humber REC: habitat map covers over 50% of the feature and has a MESH confidence score of over 58%. Well distributed points over the feature extent and less than 90% of the data points agree.	2011	MESH confidence assessment	81	Habitat map					
				Combined MESH/UKSeaMap	UKSeaMap		UKSeaMap confidence assessment	0-70 range	Habitat map					
Compass Rose	A4.2 Moderate energy circalittoral rock	NG 12 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap					Low	Modelled data available.	Low	Modelled data available.	
Farnes East	A4.2 Moderate energy circalittoral rock	NG 14 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap					Low	Modelled data available.	Low	Modelled data available.	
	A5.1 Subtidal coarse sediment	NG 14 A5.1	BSH	BGS data points	11 points	1982				High	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement	Mod	Sample data covering less than 50% of the feature	

				Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map				
	A5.2 Subtidal sand	NG 14 A5.2	BSH	BGS data points	5 points and 2 on the recommended feature extent					Mod	Presence of parent feature supported by interpreted groundtruthing data , more than 90% agreement	Low	only two sample points within the feature and several available outside
	A5.3 Subtidal mud	NG 14 A5.3	BSH	BGS data points	1 point not within recommended feature extent	1982				Low	Local information available	Low	Local information available
				RITCHIE, A. 2010. Broad-scale habitat: A5.3: Subtidal mud local knowledge.	Stakeholder	2010	Non	n/a	Habitat map				
	A5.4 Subtidal mixed sediments	NG 14 A5.4	BSH	BGS data points	3 points not within recommended feature	1982				Low	Modelled data available.	Low	Modelled data available.
				Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map				
	Peat and clay exposures	NG 14 HOCl_15	FOCI habitat	LAWRENCE, W. 2011. Peat and clay exposures local knowledge.	Stakeholder	2010	Non	n/a	Habitat map	Low	Local information available	Low	Local information available
Rock Unique	A4.3 Low energy circalittoral rock	NG 15 A4.3	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map	Low	Modelled data available. BGS data points cover this feature but are not an appropriate survey method for this habitat so were not considered.	Low	Modelled data available.
	A5.1 Subtidal coarse sediment	NG 15 A5.1	BSH	BGS data points	13 data points A5.1			0		Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Mod	Sample data covering less than 50% of the feature
Rock Unique	A5.2 Subtidal sand	NG 15 A5.2	BSH	BGS data points	20 data points A5.2			0					
	Subtidal sands and gravels	NG 15 HOCl_21	FOCI habitat	MB102	MPALAYERS000052					Mod	Presence of feature supported by interpreted groundtruthing data	Mod	Sample data covering less than 50% of the feature
Swallow Sand	A5.1 Subtidal coarse sediment	NG 16 A5.1	BSH	BGS data points	15 data points for A5.2			0	Habitat map	Mod	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement	Mod	Sample data covering less than 50% of the feature BGS sample points are the only contributor.

	A5.2 Subtidal sand	NG 16 A5.2	BSH	BGS data points	115 data points for A5.2						High	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement	Mod	Sample is well distributed but considering the size of the site the data covers less than 50% of the feature	
				Cefas data mining	7 Cefas habitat points of A5.2 distributed well across the site.				Habitat map						
	Subtidal sands and gravels	NG 16 HOCl_21	FOCI habitat	Cefas data mining	6 Cefas habitat points with Folk "S" and Eunis A5.2	2002-2008				Habitat map	High	Presence of feature supported by interpreted groundtruthing data with more than 90% agreement	Mod	Sample data covering less than 50% of the feature	
North Sea glacial tunnel valleys (Swallow hole)	NG 16 North Sea glacial tunnel valleys (Swallow hole)	Geological features	MB102							High		High			
Fulmar	A5.1 Subtidal coarse sediment	NG 17 A5.1	BSH	BGS data points	Modified Folk translated to Eunis 8 data points	1975-1980			Sample points	Mod	Presence of feature shown by interpreted groundtruthing data with more than 90% agreement	Mod	Sample data covering less than 50% of the feature	BGS sample points are the only contributor.	
				Combined MESH/UKSeaMap	UKSeaMap		UKSeamap Confidence Assessment	0-70 range	Habitat map						
	A5.2 Subtidal sand	NG 17 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap				UKSeamap Confidence Assessment	0-70 range	Habitat map	High	Presence of feature shown by interpreted groundtruthing data with more than 90% agreement	High	Sample data well distributed across more than 50% of the recommended feature
				Cefas data mining	Cefas data mining 1 point										
	BGS data points	Modified Folk translated to Eunis 60 data points	1975-1980			Sample points									
Subtidal sands and gravels (modelled)	NG 17 HOCl_21	FOCI habitat	MB102							Low	Modelled data available.	Low	Modelled data available.		
Ocean Quahog (Arctica islandica)	NG 17 SOCI_3	FOCI species	Cefas data mining	Species Unicorn	2010				mini hamon grab	Mod	Multiple records of the species presence were available and less than 12 years old.				
			Marine Recorder	MRCON0110000005E.01	2003			Trawl - Beam							

Wash Approach RA	A5.4 Subtidal mixed sediments	NG RA 08 A5.4	BSH	Combined MESH/UKSeaMap	GB001100 - Humber REC	MASLF Humber REC habitat map and GB000240 combine record the presence of the feature both have a MESH confidence score of over 58% However the raw data is limited. Records Confirm the presence outside the RA within in the MCZ. Conflicting information from modelled data (A5.4 and Subtidal sand and gravels) also means we cannot be confident in which one is present or the extent		81	Habitat map	Mod	Presence of feature shown by a habitat map however none of the validation samples are within the reference area only within site.	Low	Presence of feature shown by a habitat map however none of the validation samples are within the reference area only within site.	Both the REC and MESH agreed with over 50% of the features extent and presence
Wash Approach RA	Subtidal sands and gravels	NG RA 08 HOCI_21	FOCI habitat	MB102	GB001100 - Humber REC	MASLF Humber REC habitat map and GB000240 combine record the presence of the feature both have a MESH confidence score of over 58% However the raw data is limited. Records Confirm the presence outside the RA within in the MCZ. Conflicting information from modelled data (A5.4 and Subtidal sands and gravels) also means we cannot be confident in which one is present or the extent		81	Habitat map	Mod	Presence of feature shown by a habitat map with polygons containing biological validation samples however none of the validation samples are within the reference area only within site.	Low	Presence of feature shown by a habitat map however none of the validation samples are within the reference area only within site.	
Compass Rose RA	A4.2 Moderate energy circalittoral rock	NG RA 10 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap 2010	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.	
	A5.2 Subtidal sand	NG RA 10 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap 2010	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.	This is a sliver of habitat (<5km2)
	Subtidal sands and gravels (modelled)	NG RA 10 HOCI_21	FOCI habitat	MB102						Low	Modelled data available.	Low	Modelled data available.	
Farnes Clay	A4.2 Moderate energy circalittoral rock	NG RA 12 A4.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap 2010	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.	1 point available not supporting the feature on A4.2 but not in RA only in the MCZ

	A5.2 Subtidal sand	NG RA 12 A5.2	BSH	Combined MESH/UKSeaMap	UKSeaMap		UKSeamap 2010	0-70 range	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	Peat and clay exposures	NG RA 12 HOCI_15	FOCI habitat	LAWRENCE, W. 2011. Peat and clay exposures local knowledge.	Stakeholder	2010	Non	n/a	Habitat map	Low	Local information available	low	Local information available
	Subtidal sands and gravels	NG RA 12 HOCI_21	FOCI habitat	MB102					Habitat map	Low	Modelled data available.	Low	Modelled data available.
Rock Unique RA	A4.3 Low energy circlittoral rock	NG RA 13 A4.3	BSH	Combined MESH/UKSeaMap	UKSeaMap			0	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	A5.1 Subtidal coarse sediment	NG RA 13 A5.1	BSH	Combined MESH/UKSeaMap	UKSeaMap			0	Habitat map	Low	Modelled data available.	Low	Modelled data available.
	A5.2 Subtidal sand	NG RA 13 A5.2	BSH	BGS data points	5 data points of A5.2			0		Mod	Presence of feature supported by interpreted groundtruthing data with less than 90% agreement	Mod	Sample data covering less than 50% of the feature.
	Subtidal sands and gravels	NG RA 13 HOCI_21	FOCI habitat	BGS data points	5 data points of A5.2					Mod	Presence of feature supported by interpreted groundtruthing data recording BSH A5.2 and A5.1.	Low	Sample data covering less than 50% of the feature.

Annex 10 Detailed risk score

Table 232 Risk score for recommended Marine Conservation Zones. Score using both the final recommendations and JNCC and Natural England advice are presented

Note that features not proposed are included in the table in grey text – these do not count towards the risk scores

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Stour and Orwell	BS 02	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	11	4	36.36	11	4	36.36
Balanced Seas	Stour and Orwell	BS 02	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	11	4	36.36	11	4	36.36
Balanced Seas	Stour and Orwell	BS 02	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	11	4	36.36	11	4	36.36
Balanced Seas	Stour and Orwell	BS 02	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Maintain	Maintain	11	4	36.36	11	4	36.36
Balanced Seas	Stour and Orwell	BS 02	Inshore	Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	Recover	Recover	11	4	36.36	11	4	36.36
Balanced Seas	Stour and Orwell	BS 02	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	11	4	36.36	11	4	36.36
Balanced Seas	Stour and Orwell	BS 02	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Recover	11	4	36.36	11	4	36.36
Balanced Seas	Stour and Orwell	BS 02	Inshore	Sheltered muddy gravels	FOCI Habitat	Recover	Recover	11	4	36.36	11	4	36.36
Balanced Seas	Stour and Orwell	BS 02	Inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	11	4	36.36	11	4	36.36
Balanced Seas	Stour and Orwell	BS 02	Inshore	Estuarine rocky habitats	FOCI Habitat	Maintain	Maintain	11	4	36.36	11	4	36.36

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Stour and Orwell	BS 02	Inshore	Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	Recover	Recover	11	4	36.36	11	4	36.36
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	Low energy intertidal rock	BSH A1.3	not proposed	feature not proposed	7	0	0	7	1	14.29
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	Intertidal sand and muddy sand	BSH A2.2	not proposed	feature not proposed	7	0	0	7	1	14.29
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	Intertidal mud	BSH A2.3	no CO proposed	feature not proposed	7	0	0	7	1	14.29
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Recover	7	0	0	7	1	14.29
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	Lagoon sea slug <i>Tenellia adspersa</i>	FOCI species	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Blackwater and Crouch	BS 03	Inshore	Clacton Cliffs and Foreshore	Geological feature	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Thames Estuary	BS 05	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	9	0	0	9	1	11.11

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Thames Estuary	BS 05	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	9	0	0	9	1	11.11
Balanced Seas	Thames Estuary	BS 05	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	9	0	0	9	1	11.11
Balanced Seas	Thames Estuary	BS 05	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	9	0	0	9	1	11.11
Balanced Seas	Thames Estuary	BS 05	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	9	0	0	9	1	11.11
Balanced Seas	Thames Estuary	BS 05	Inshore	Sheltered muddy gravels	FOCI Habitat	Maintain	Recover	9	0	0	9	1	11.11
Balanced Seas	Thames Estuary	BS 05	Inshore	Tentacled lagoon-worm <i>Alkmaria romijni</i>	FOCI species	Maintain	Maintain	9	0	0	9	1	11.11
Balanced Seas	Thames Estuary	BS 05	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	Maintain	Maintain	9	0	0	9	1	11.11
Balanced Seas	Thames Estuary	BS 05	Inshore	Smelt <i>Osmerus eperlanus</i>	FOCI species	Maintain	Maintain	9	0	0	9	1	11.11
Balanced Seas	Medway Estuary	BS 06	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	10	0	0	10	2	20.00
Balanced Seas	Medway Estuary	BS 06	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	10	0	0	10	2	20.00
Balanced Seas	Medway Estuary	BS 06	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	10	0	0	10	2	20.00
Balanced Seas	Medway Estuary	BS 06	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	10	0	0	10	2	20.00
Balanced Seas	Medway Estuary	BS 06	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	10	0	0	10	2	20.00
Balanced Seas	Medway Estuary	BS 06	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	10	0	0	10	2	20.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Medway Estuary	BS 06	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	10	0	0	10	2	20.00
Balanced Seas	Medway Estuary	BS 06	Inshore	Sheltered muddy gravels	FOCI Habitat	Maintain	Recover	10	0	0	10	2	20.00
Balanced Seas	Medway Estuary	BS 06	Inshore	Estuarine rocky habitats	FOCI Habitat	Maintain	Maintain	10	0	0	10	2	20.00
Balanced Seas	Medway Estuary	BS 06	Inshore	Tentacled lagoon-worm <i>Alkmaria romijni</i>	FOCI species	Maintain	Recover	10	0	0	10	1	10.00
Balanced Seas	Thanet Coast	BS 07	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Recover	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Maintain	Maintain	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Recover	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Subtidal chalk	FOCI Habitat	Maintain	Maintain	12	1	8.33	12	2	16.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Thanet Coast	BS 07	Inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Kaleidoscope jellyfish <i>Halicystus auricula</i>	FOCI species	Maintain	Maintain	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	FOCI species	Maintain	Maintain	12	1	8.33	12	2	16.67
Balanced Seas	Thanet Coast	BS 07	Inshore	Common maerl <i>Phymatolithon calcareum</i>	FOCI species	no CO proposed	feature not proposed	12	1	8.33	12	2	16.67
Balanced Seas	Goodwin Sands	BS 08	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	7	0	0	7	0	0.00
Balanced Seas	Goodwin Sands	BS 08	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	7	0	0	7	0	0.00
Balanced Seas	Goodwin Sands	BS 08	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	7	0	0	7	0	0.00
Balanced Seas	Goodwin Sands	BS 08	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	7	0	0	7	0	0.00
Balanced Seas	Goodwin Sands	BS 08	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Maintain	Maintain	7	0	0	7	0	0.00
Balanced Seas	Goodwin Sands	BS 08	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Maintain	Maintain	7	0	0	7	0	0.00
Balanced Seas	Goodwin Sands	BS 08	Inshore	Eastern English Channel Flood Features	Geological feature	Maintain	Maintain	7	0	0	7	0	0.00
Balanced Seas	Offshore Foreland	BS 09	Offshore/ inshore	High energy infralittoral rock	BSH A3.1	Recover	Maintain	6	3	50	6	1	16.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Offshore Foreland	BS 09	Offshore/ inshore	High energy circalittoral rock	BSH A4.1	Recover	Recover	6	3	50	6	1	16.67
Balanced Seas	Offshore Foreland	BS 09	Offshore/ inshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Maintain	6	3	50	6	1	16.67
Balanced Seas	Offshore Foreland	BS 09	Offshore/ inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	6	3	50	6	1	16.67
Balanced Seas	Offshore Foreland	BS 09	Offshore/ inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	6	3	50	6	1	16.67
Balanced Seas	Offshore Foreland	BS 09	Offshore/ inshore	Eastern English Channel outburst flood features	Geological feature	Maintain	Maintain	6	3	50	6	1	16.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Low energy infralittoral rock	BSH A3.3	Maintain	Maintain	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Subtidal mud	BSH A5.3	Maintain	Recover	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Recover	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Recover	Recover	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Recover	12	2	16.67	12	5	41.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	The Swale Estuary	BS 10	Inshore	Sheltered muddy gravels	FOCI Habitat	Maintain	Recover	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	12	2	16.67	12	5	41.67
Balanced Seas	The Swale Estuary	BS 10	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	Maintain	Maintain	12	2	16.67	12	5	41.67
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	High energy infralittoral rock	BSH A3.1	Recover	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Moderate energy infralittoral rock	BSH A3.2	Recover	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Maintain	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	12	5	41.67	12	1	8.33

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Littoral chalk communities	FOCI Habitat	Recover	Recover	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Deal	BS 11.1	Inshore	Subtidal chalk	FOCI Habitat	Recover	Maintain	12	5	41.67	12	1	8.33
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	High energy infralittoral rock	BSH A3.1	Recover	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Moderate energy infralittoral rock	BSH A3.2	Recover	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Recover	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Littoral chalk communities	FOCI Habitat	Recover	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Maintain	15	6	40	15	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Subtidal chalk	FOCI Habitat	Recover	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI species	Maintain	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	15	6	40	15	0	0.00
Balanced Seas	Dover to Folkestone	BS 11.2	Inshore	Folkestone Warren	Geological feature	Maintain	Maintain	15	6	40	15	0	0.00
Balanced Seas	Folkstone Pomerania	BS 11.4	Inshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Recover	8	7	87.5	8	4	50.00
Balanced Seas	Folkstone Pomerania	BS 11.4	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	8	7	87.5	8	4	50.00
Balanced Seas	Folkstone Pomerania	BS 11.4	Inshore	Subtidal sand	BSH A5.2	Recover	Maintain	8	7	87.5	8	4	50.00
Balanced Seas	Folkstone Pomerania	BS 11.4	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Recover	Maintain	8	7	87.5	8	4	50.00
Balanced Seas	Folkstone Pomerania	BS 11.4	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Recover	8	7	87.5	8	4	50.00
Balanced Seas	Folkstone Pomerania	BS 11.4	Inshore	Subtidal sands and gravels	FOCI Habitat	Recover	Maintain	8	7	87.5	8	4	50.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Folkstone Pomerania	BS 11.4	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Recover	Recover	8	7	87.5	8	4	50.00
Balanced Seas	Folkstone Pomerania	BS 11.4	Inshore	Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	Recover	Recover	8	7	87.5	8	4	50.00
Balanced Seas	Beachy Head East	BS 13.1	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Moderate Energy infralittoral Rock (A3.92, A3.94, A4.92) A3.92 ME infralittoral rock and thin sands	BSH A3.92, A3.94, A4.92	Recover	Recover	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Low Energy Infralittoral Rock and thin sandy sediments (A3.A2 and A3.A4)	BSH A3.A2 and A3.A4	Recover	Recover	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Low energy circalittoral rock	BSH A4.3	no CO proposed	feature not proposed	16	7	43.75	16	7	43.75

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Moderate energy circalittoral rock (A4.94) (A4.94 ME circalittoral rock and thin mixed sediments)	BSH A4.94	Recover	Recover	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Low energy circalittoral rock (A4.A4) (A4.A4 LE circalittoral rock and thin mixed sediments)	BSH A4.A4	Recover	Recover	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Subtidal sand	BSH A5.2	Recover (amendment report states that the feature is not proposed for protection)	Recover (amendment report states that the feature is not proposed for protection)	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Subtidal mixed sediments	BSH A5.4	Recover (amendment report states that the feature is not proposed for protection)	Maintain (amendment report states that the feature is not proposed for protection)	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Recover	Recover	16	7	43.75	16	7	43.75

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Littoral chalk communities	FOCI Habitat	Maintain	Maintain	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Recover	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Subtidal chalk	FOCI Habitat	Maintain	Maintain	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI species	Maintain	Maintain	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Recover	Recover	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head East	BS 13.1	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	Maintain	Maintain	16	7	43.75	16	7	43.75
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Low energy infralittoral rock	BSH A3.3	no CO proposed	feature not proposed	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Moderate energy infralittoral rock (A3.94) (A3.94 Moderate energy infralittoral rock	BSH A3.94	Maintain	Maintain	17	1	5.88	17	1	5.88

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
				and thin mixed sediments)									
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Low energy infralittoral rock (A3.A2 and A3.A4) (A3.A2 Low energy infralittoral rock and thin sandy sediment)	BSH A3.A2 and A3.A4	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Low energy infralittoral Rock (A3.A2 and A3.A4) (A3.A4 Low energy infralittoral rock and thin mixed sediments)	BSH A3.A2 and A3.A4	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	A5.24 infralittoral muddy sand	BSH A5.2	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	A5.33 infralittoral sandy mud	BSH A5.3	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Subtidal biogenic reefs	BSH A5.6	no CO proposed	feature not proposed	17	1	5.88	17	1	5.88

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Balanced Seas	Beachy Head West	BS 13.2	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Littoral chalk communities	FOCI Habitat	Recover	Recover	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Subtidal chalk	FOCI Habitat	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Long-snouted seahorse <i>Hippocampus guttulatus</i>	FOCI species	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI species	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Beachy Head West	BS 13.2	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	Maintain	Maintain	17	1	5.88	17	1	5.88
Balanced Seas	Offshore Brighton	BS 14	offshore	High energy circalittoral rock	BSH A4.1	Recover	Yes	5	4	80	4	3	75.00
Balanced Seas	Offshore Brighton	BS 14	offshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Yes						
Balanced Seas	Offshore Brighton	BS 14	offshore	Subtidal mixed sediments	BSH A5.4	Recover	Yes						
Balanced Seas	Offshore Brighton	BS 14	offshore	Subtidal sands and gravels	FOCI Habitat	Maintain	No						
Balanced Seas	Offshore Brighton	BS 14	offshore	Ross worm <i>Sabellaria</i>	FOCI Habitat	Recover - see	Advice pending						

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
				<i>spinulosa</i> reefs		comments	confirmati on of presence of reef & not just occurrence of <i>S. spin</i>						
Balanced Seas	Kingmere	BS 16	Inshore	Moderate energy infralittoral Rock (A3.94) (A3.94 ME infralittoral rock and thin mixed sediments)	BSH A3.94	Recover	Recover	4	3	75	4	3	75.00
Balanced Seas	Kingmere	BS 16	Inshore	Subtidal mixed sediments	BSH A5.4	not proposed	feature not proposed	4	3	75	4	3	75.00
Balanced Seas	Kingmere	BS 16	Inshore	Subtidal chalk	FOCI Habitat	Recover	Recover	4	3	75	4	3	75.00
Balanced Seas	Kingmere	BS 16	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	4	3	75	4	3	75.00
Balanced Seas	Kingmere	BS 16	Inshore	Black Bream <i>Spondyliosoma cantharus</i>	Non-ENG feature	Recover	Recover	4	3	75	4	3	75.00
Balanced Seas	Offshore Overfalls	BS 17	offshore/in shore	Subtidal coarse sediment	BSH A5.1	Recover	Yes	8	6	75	7	5	71
Balanced Seas	Offshore Overfalls	BS 17	offshore/in shore	Subtidal sand	BSH A5.2	Recover	Yes						
Balanced Seas	Offshore Overfalls	BS 17	offshore/in shore	Subtidal mixed sediments	BSH A5.4	Recover	Yes						

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Balanced Seas	Offshore Overfalls	BS 17	offshore/in shore	Subtidal sands and gravels	FOCI Habitat	Recover	Yes - see comments						
Balanced Seas	Offshore Overfalls	BS 17	offshore/in shore	Subtidal sands and gravels	FOCI Habitat	Recover	Yes						
Balanced Seas	Offshore Overfalls	BS 17	offshore/in shore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Advice pending confirmation of presence of reef & not just occurrence of <i>S. spin</i>						
Balanced Seas	Offshore Overfalls	BS 17	offshore/in shore	Undulate ray <i>Raja undulata</i>	FOCI species	Maintain	Cannot assess						
Balanced Seas	Offshore Overfalls	BS 17	offshore/in shore	English Outburst Flood Geological feature	Geological feature	Maintain	Yes						
Balanced Seas	Norris to Ryde	BS 19	Inshore	Subtidal mud	BSH A5.3	Maintain	Recover	3	1	33.33	3	2	66.67
Balanced Seas	Norris to Ryde	BS 19	Inshore	Seagrass beds	FOCI Habitat	Recover	Recover	3	1	33.33	3	2	66.67
Balanced Seas	Norris to Ryde	BS 19	Inshore	Tentacled lagoon-worm <i>Alkmaria romijni</i>	FOCI species	Maintain	Maintain	3	1	33.33	3	2	66.67
Balanced Seas	The Needles	BS 20	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	4	1	25	4	1	25.00

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Balanced Seas	The Needles	BS 20	Inshore	Seagrass beds	FOCI Habitat	Recover	Recover	4	1	25	4	1	25.00
Balanced Seas	The Needles	BS 20	Inshore	Stalked jellyfish <i>Lucernariopsis campanulata</i>	FOCI species	Maintain	Maintain	4	1	25	4	1	25.00
Balanced Seas	The Needles	BS 20	Inshore	Peacock's tail <i>Padina pavonica</i>	FOCI species	Maintain	Maintain	4	1	25	4	1	25.00
Balanced Seas	Offshore South West Corner/ Wight-Barfleur Extension	BS 21	offshore	Subtidal coarse sediment	BSH A5.1	Maintain	Yes	3	0	0	3	0	0.00
Balanced Seas	Offshore South West Corner/ Wight-Barfleur Extension	BS 21	offshore	Subtidal mixed sediments	BSH A5.4	Maintain	Yes						
Balanced Seas	Offshore South West Corner/ Wight-Barfleur Extension	BS 21	offshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Yes						
Balanced Seas	Bembridge	BS 22	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Subtidal mud	BSH A5.3	Recover	Recover	18	8	44.44	18	8	44.44

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Balanced Seas	Bembridge	BS 22	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Maerl beds	FOCI Habitat	Recover	Recover	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Mud habitats in deep water	FOCI Habitat	Recover	Recover	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	Recover	Recover	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Recover	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Seagrass beds	FOCI Habitat	Recover	Recover	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Sea pens and burrowing megafauna	FOCI Habitat	Recover	Recover	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Tentacled lagoon-worm <i>Alkmaria romijni</i>	FOCI species	Maintain	Maintain	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Kaleidoscope jellyfish <i>Haliclystus auricula</i>	FOCI species	Maintain	Maintain	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Long-snouted seahorse <i>Hippocampus guttulatus</i>	FOCI species	Maintain	Maintain	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Short-snouted seahorse <i>Hippocampus</i>	FOCI species	Maintain	Maintain	18	8	44.44	18	8	44.44

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				<i>hippocampus</i>									
Balanced Seas	Bembridge	BS 22	Inshore	Starlet sea anemone <i>Nematostella vectensis</i>	FOCI species	Maintain	Maintain	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Recover	Recover	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Peacock's tail <i>Padina pavonica</i>	FOCI species	Maintain	Maintain	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Sea snail <i>Paludinella littorina</i>	FOCI species	Maintain	Maintain	18	8	44.44	18	8	44.44
Balanced Seas	Bembridge	BS 22	Inshore	Lagoon sand shrimp <i>Gammarus insensibilis</i>	FOCI species	Maintain	Maintain	18	8	44.44	18	8	44.44
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Moderate energy infralittoral rock	BSH A3.2	Recover	Recover	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Intertidal underboulder communities	FOCI Habitat	Recover	Recover	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	Maintain	Maintain	13	5	38.46	13	5	38.46

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Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Peat and clay exposures	FOCI Habitat	Recover	Recover	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Recover	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Seagrass beds	FOCI Habitat	Recover	Recover	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Estuarine rocky habitats	FOCI Habitat	Maintain	Maintain	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Lagoon sand shrimp <i>Gammarus insensibilis</i>	FOCI species	Maintain	Maintain	13	5	38.46	13	5	38.46
Balanced Seas	Yarmouth to Cowes	BS 23	Inshore	Bouldnor Cliff geological feature*	Geological feature	Maintain	Maintain	13	5	38.46	13	5	38.46
Balanced Seas	Fareham Creek	BS 24.2	Inshore	Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	Maintain	Maintain	3	0	0	3	0	0.00
Balanced Seas	Fareham Creek	BS 24.2	Inshore	Sheltered muddy gravels	FOCI Habitat	Maintain	Maintain	3	0	0	3	0	0.00
Balanced Seas	Fareham Creek	BS 24.2	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	3	0	0	3	0	0.00
Balanced Seas	Pagham Harbour	BS 25.1	Inshore	Seagrass beds	FOCI Habitat	Maintain	Maintain	4	0	0	4	0	0.00
Balanced Seas	Pagham Harbour	BS 25.1	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	Maintain	Maintain	4	0	0	4	0	0.00

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Balanced Seas	Pagham Harbour	BS 25.1	Inshore	DeFolin's lagoon snail <i>Caecum armoricum</i>	FOCI species	Maintain	Maintain	4	0	0	4	0	0.00
Balanced Seas	Pagham Harbour	BS 25.1	Inshore	Lagoon sand shrimp <i>Gammarus insensibilis</i>	FOCI species	Maintain	Maintain	4	0	0	4	0	0.00
Balanced Seas	Selsey Bill and the Hounds	BS 25.2	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Recover	7	0	0	7	1	14.29
Balanced Seas	Selsey Bill and the Hounds	BS 25.2	Inshore	Moderate energy infralittoral rock (A3.92 and A3.94)	BSH A3.92 and A3.94	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Selsey Bill and the Hounds	BS 25.2	Inshore	Low energy infralittoral rock (A3.A2 and A3.A4)	BSH A3.A2 and A3.A4	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Selsey Bill and the Hounds	BS 25.2	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Selsey Bill and the Hounds	BS 25.2	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Selsey Bill and the Hounds	BS 25.2	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Selsey Bill and the Hounds	BS 25.2	Inshore	Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI species	no feature/CO proposed	feature not proposed	7	0	0	7	1	14.29

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Balanced Seas	Selsey Bill and the Hounds	BS 25.2	Inshore	Bracklesham Bay	Geological feature	Maintain	Maintain	7	0	0	7	1	14.29
Balanced Seas	Hythe Bay	BS 26	Inshore	Subtidal mud	BSH A5.3	Recover	Recover	3	3	100	3	3	100.00
Balanced Seas	Hythe Bay	BS 26	Inshore	Mud habitats in deep water	FOCI Habitat	Recover	Recover	3	3	100	3	3	100.00
Balanced Seas	Hythe Bay	BS 26	Inshore	Sea pens and burrowing megafauna	FOCI Habitat	Recover	Recover	3	3	100	3	3	100.00
Balanced Seas	Utopia	BS 28	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Recover	Maintain	1	1	100	1	0	0.00
Balanced Seas	East Meridian	BS 29	offshore/inshore	Subtidal sand	BSH A5.2	Recover	Yes	4	4	100	3	3	100.00
Balanced Seas	East Meridian	BS 29	offshore/inshore	Subtidal mixed sediments	BSH A5.4	Recover	Yes						
Balanced Seas	East Meridian	BS 29	offshore/inshore	Subtidal sands and gravels	FOCI Habitat	Recover	Yes						
Balanced Seas	East Meridian	BS 29	offshore/inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Recover	Advice pending confirmation of presence of reef & not just occurrence of S.						

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
							spin						
Balanced Seas	East Meridian (Eastern side)	BS 29.2	offshore/in shore	Subtidal sand	BSH A5.2	Recover	Yes	3	3	100	3	3	100.00
Balanced Seas	East Meridian (Eastern side)	BS 29.2	offshore/in shore	Subtidal mixed sediments	BSH A5.4	Recover	Yes						
Balanced Seas	East Meridian (Eastern side)	BS 29.2	offshore/in shore	Subtidal sands and gravels	FOCI Habitat	Recover	Yes						
Balanced Seas	Kentish Knock East	BS 30	Inshore	Subtidal coarse sediment	BSH A5.1	Recover	Maintain	3	3	100	0	0	0.00
Balanced Seas	Kentish Knock East	BS 30	Inshore	Subtidal sand	BSH A5.2	Recover	Maintain	3	3	100	0	0	0.00
Balanced Seas	Kentish Knock East	BS 30	Inshore	Subtidal mixed sediments	BSH A5.4	Recover	Maintain	3	3	100	0	0	0.00
Balanced Seas	Inner Bank	BS 31	offshore/in shore	Moderate energy infralittoral rock	BSH A3.2	Recover	Yes	6	6	100	4	4	100.00
Balanced Seas	Inner Bank	BS 31	offshore/in shore	Moderate energy circalittoral rock	BSH A4.2	Recover	Yes						
Balanced Seas	Inner Bank	BS 31	offshore/in shore	Subtidal coarse sediment	BSH A5.1	Recover	Yes						
Balanced Seas	Inner Bank	BS 31	offshore/in shore	Subtidal sand	BSH A5.2	Recover	Yes						

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Balanced Seas	Inner Bank	BS 31	offshore/in shore	Native oyster <i>Ostrea edulis</i> beds	FOCI Habitat	Recover	Advise not listed for designation						
Balanced Seas	Inner Bank	BS 31	offshore/in shore	Native oyster <i>Ostrea edulis</i>	FOCI species	Recover	Advise not listed for designation						
Finding Sanctuary	The Canyons	FS 01	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Advise not listed for designation	4	4	100	2	2	100.00
Finding Sanctuary	The Canyons	FS 01	Offshore	Subtidal sand	BSH A5.2	Recover	Advise not listed for designation						
Finding Sanctuary	The Canyons	FS 01	Offshore	Deep-sea bed	BSH A6	Recover	Yes						
Finding Sanctuary	The Canyons	FS 01	Offshore	Cold-water coral reefs	FOCI Habitat	Recover	Yes						
Finding Sanctuary	South-West Deeps (West)	FS 02	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Recover	4	3	75	4	3	75.00
Finding Sanctuary	South-West Deeps (West)	FS 02	Offshore	Subtidal sand	BSH A5.2	Recover	Recover	4	3	75	4	3	75.00

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	South-West Deeps (West)	FS 02	Offshore	Subtidal mixed sediments	BSH A5.4	Recover	Recover	4	3	75	4	3	75.00
Finding Sanctuary	South-West Deeps (West)	FS 02	Offshore	Celtic Sea Relict Sandbank	Geological feature	Maintain	Maintain	4	3	75	4	3	75.00
Finding Sanctuary	South-West Deeps (East)	FS 03	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Yes	4	2	50	4	3	75.00
Finding Sanctuary	South-West Deeps (East)	FS 03	Offshore	Subtidal sand	BSH A5.2	Maintain	No						
Finding Sanctuary	South-West Deeps (East)	FS 03	Offshore	Deep-sea bed	BSH A6	Recover	Yes						
Finding Sanctuary	South-West Deeps (East)	FS 03	Offshore	Celtic sea relict sandbanks	Geological feature	Maintain	Yes						
Finding Sanctuary	North-West of Jones Bank	FS 04	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Yes	3	3	100	2	2	100.00
Finding Sanctuary	North-West of Jones Bank	FS 04	Offshore	Subtidal sand	BSH A5.2	Recover	Advise not listed for designation						
Finding Sanctuary	North-West of Jones Bank	FS 04	Offshore	Subtidal mud	BSH A5.3	Recover	Yes						

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Greater Haig Fras	FS 05	Offshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Advise not listed for designation	6	5	83	4	4	100.00
Finding Sanctuary	Greater Haig Fras	FS 05	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Yes						
Finding Sanctuary	Greater Haig Fras	FS 05	Offshore	Subtidal sand	BSH A5.2	Recover	Yes						
Finding Sanctuary	Greater Haig Fras	FS 05	Offshore	Subtidal mud	BSH A5.3	Recover	Yes						
Finding Sanctuary	Greater Haig Fras	FS 05	Offshore	Subtidal mixed sediments	BSH A5.4	Recover	Yes						
Finding Sanctuary	Greater Haig Fras	FS 05	Offshore	Fragile sponge & anthozoan communities	FOCI Habitat	To be confirmed	Advise not listed for designation						
Finding Sanctuary	Greater Haig Fras	FS 05	Offshore	Haig Fras rock complex	Geological feature	Maintain	Advise not listed for designation						
Finding Sanctuary	East of Jones Bank	FS 06	Offshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Yes	3	3	100	2	2	100.00
Finding Sanctuary	East of Jones Bank	FS 06	Offshore	Subtidal sand	BSH A5.2	Recover	Advise not listed for designation						

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	East of Jones Bank	FS 06	Offshore	Subtidal mud	BSH A5.3	Recover	Yes						
Finding Sanctuary	East of Haig Fras	FS 07	Offshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Yes	3	3	100	3	3	100.00
Finding Sanctuary	East of Haig Fras	FS 07	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Yes						
Finding Sanctuary	East of Haig Fras	FS 07	Offshore	Subtidal sand	BSH A5.2	Recover	Yes						
Finding Sanctuary	North-East of Haig Fras ⁸⁸	FS 08	Offshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	4	2	50	4	2	50.00
Finding Sanctuary	North-East of Haig Fras	FS 08	Offshore	Subtidal sand	BSH A5.2	Maintain	Maintain	4	2	50	4	2	50.00
Finding Sanctuary	North-East of Haig Fras	FS 08	Offshore	Subtidal mud	BSH A5.3	Recover	Recover	4	2	50	4	2	50.00
Finding Sanctuary	North-East of Haig Fras	FS 08	Offshore	Subtidal mixed sediments	BSH A5.4	Recover	Recover	4	2	50	4	2	50.00
Finding Sanctuary	South of Celtic Deep	FS 09	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Yes	4	4	100	3	3	100.00
Finding Sanctuary	South of Celtic Deep	FS 09	Offshore	Subtidal sand	BSH A5.2	Recover	Yes						
Finding Sanctuary	South of Celtic Deep	FS 09	Offshore	Subtidal mud	BSH A5.3	Recover	Advise not listed for						

⁸⁸ Please note that the conservation objectives are taken from the North-East of Haig Fras rMCZ site report p288 of Lieberknecht et al. (2011) which list different objectives than the draft conservation objective summary (p135).

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							designatio n						
Finding Sanctuary	South of Celtic Deep	FS 09	Offshore	Subtidal mixed sediments	BSH A5.4	Recover	Yes						
Finding Sanctuary	Celtic Deep	FS 10	Offshore	Subtidal mud	BSH A5.3	Recover	Yes	2	2	100	3	3	100.00
Finding Sanctuary	Celtic Deep	FS 10	Offshore	Mud habitats in deep water	FOCI Habitat	Recover	Yes						
Finding Sanctuary	East of Celtic Deep	FS 11	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Advise not listed for designatio n	3	3	100	2	2	100.00
Finding Sanctuary	East of Celtic Deep	FS 11	Offshore	Subtidal sand	BSH A5.2	Recover	Yes						
Finding Sanctuary	East of Celtic Deep	FS 11	Offshore	Subtidal mud	BSH A5.3	Recover	Yes						
Finding Sanctuary	Western Channel	FS 12	Offshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Recover	3	3	100	3	3	100.00
Finding Sanctuary	Western Channel	FS 12	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Recover	3	3	100	3	3	100.00
Finding Sanctuary	Western Channel	FS 12	Offshore	Subtidal mixed sediments	BSH A5.4	Recover	Recover	3	3	100	3	3	100.00
Finding Sanctuary	South of the Isles of Scilly	FS 13	Offshore/inshore	Subtidal coarse sediment	BSH A5.1	Recover	Yes	2	2	100	2	2	100.00
Finding Sanctuary	South of the Isles of Scilly	FS 13	Offshore/inshore	Subtidal sand	BSH A5.2	Recover	Yes						

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Finding Sanctuary	Poole Rocks	FS 14	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	5	0	0	5	2	40.00
Finding Sanctuary	Poole Rocks	FS 14	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	5	0	0	5	2	40.00
Finding Sanctuary	Poole Rocks	FS 14	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	5	0	0	5	2	40.00
Finding Sanctuary	Poole Rocks	FS 14	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	5	0	0	5	2	40.00
Finding Sanctuary	Poole Rocks	FS 14	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	5	0	0	5	2	40.00
Finding Sanctuary	Poole Rocks	FS 14	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	5	0	0	5	2	40.00
Finding Sanctuary	Poole Rocks	FS 14	Inshore	Couch's goby <i>Gobius couchi</i>	FOCI species	Maintain	Recover	5	0	0	5	2	40.00
Finding Sanctuary	Poole Rocks	FS 14	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Recover	5	0	0	5	2	40.00
Finding Sanctuary	Poole Rocks	FS 14	Inshore	Couch's goby <i>Gobius couchi</i>	FOCI species	Maintain	Recover	5	0	0	5	2	40.00
Finding Sanctuary	Poole Rocks	FS 14	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Recover	5	0	0	5	2	40.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	8	3	37.5	8	2	25.00
Finding	Studland	FS 15	Inshore	Subtidal sand	BSH	Maintain	Maintain	8	3	37.5	8	2	25.00

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Sanctuary	Bay				A5.2								
Finding Sanctuary	Studland Bay	FS 15	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Seagrass beds	FOCI habitat	Recover	Recover	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Seagrass beds	FOCI habitat	Recover	Recover	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI species	Recover	Recover	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Undulate ray <i>Raja undulata</i>	FOCI species	Recover	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI species	Recover	Recover	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	Studland Bay	FS 15	Inshore	Undulate ray <i>Raja undulata</i>	FOCI species	Recover	Maintain	8	3	37.5	8	2	25.00
Finding Sanctuary	South Dorset	FS 16	Inshore	High energy circalittoral rock	BSH A4.1	Recover	Recover	5	3	60	5	3	60.00

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Finding Sanctuary	South Dorset	FS 16	Inshore	High energy circalittoral rock	BSH A4.1	Recover	Recover	5	3	60	5	3	60.00
Finding Sanctuary	South Dorset	FS 16	Inshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Recover	5	3	60	5	3	60.00
Finding Sanctuary	South Dorset	FS 16	Inshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Recover	5	3	60	5	3	60.00
Finding Sanctuary	South Dorset	FS 16	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	5	3	60	5	3	60.00
Finding Sanctuary	South Dorset	FS 16	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	5	3	60	5	3	60.00
Finding Sanctuary	South Dorset	FS 16	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	5	3	60	5	3	60.00
Finding Sanctuary	South Dorset	FS 16	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	5	3	60	5	3	60.00
Finding Sanctuary	South Dorset	FS 16	Inshore	Subtidal chalk	FOCI habitat	Recover	Recover	5	3	60	5	3	60.00
Finding Sanctuary	South Dorset	FS 16	Inshore	Subtidal chalk	FOCI habitat	Recover	Recover	5	3	60	5	3	60.00
Finding Sanctuary	Broad Bench to Kimmeridge Bay	FS 17	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	Broad Bench to Kimmeridge Bay	FS 17	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	Broad Bench to Kimmeridge Bay	FS 17	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	4	0	0	4	0	0.00

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Finding Sanctuary	Broad Bench to Kimmeridge Bay	FS 17	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	Broad Bench to Kimmeridge Bay	FS 17	Inshore	Peacock's tail <i>Padina pavonica</i>	FOCI species	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	Broad Bench to Kimmeridge Bay	FS 17	Inshore	Sea snail <i>Paludinella littorina</i>	FOCI species	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	Broad Bench to Kimmeridge Bay	FS 17	Inshore	Peacock's tail <i>Padina pavonica</i>	FOCI species	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	Broad Bench to Kimmeridge Bay	FS 17	Inshore	Sea snail <i>Paludinella littorina</i>	FOCI species	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	6	0	0	6	0	0.00

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Finding Sanctuary	South of Portland	FS 18	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	Portland Deep	Geological feature	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	South of Portland	FS 18	Inshore	Portland Deep	Geological feature	Maintain	Maintain	6	0	0	6	0	0.00
Finding Sanctuary	Chesil Beach and Stennis Ledges	FS 19	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	7	5	71.43	7	5	71.43
Finding Sanctuary	Chesil Beach and Stennis Ledges	FS 19	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	7	5	71.43	7	5	71.43
Finding Sanctuary	Chesil Beach and Stennis Ledges	FS 19	Inshore	High energy infralittoral rock	BSH A3.1	Recover	Recover	7	5	71.43	7	5	71.43
Finding Sanctuary	Chesil Beach and	FS 19	Inshore	Subtidal coarse sediment	BSH A5.1	Recover	Recover	7	5	71.43	7	5	71.43

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	Stennis Ledges												
Finding Sanctuary	Chesil Beach and Stennis Ledges	FS 19	Inshore	Subtidal sand	BSH A5.2	Recover	Recover	7	5	71.43	7	5	71.43
Finding Sanctuary	Chesil Beach and Stennis Ledges	FS 19	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Recover	Recover	7	5	71.43	7	5	71.43
Finding Sanctuary	Chesil Beach and Stennis Ledges	FS 19	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Recover	Recover	7	5	71.43	7	5	71.43
Finding Sanctuary	Axe Estuary	FS 20	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	5	0	0	6	1	16.67
Finding Sanctuary	Axe Estuary	FS 20	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	5	0	0	6	1	16.67
Finding Sanctuary	Axe Estuary	FS 20	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	5	0	0	6	1	16.67
Finding Sanctuary	Axe Estuary	FS 20	Inshore	Coastal saltmarshes and saline reedbeds	BSH A2.5	Maintain	Maintain	5	0	0	6	1	16.67
Finding Sanctuary	Axe Estuary	FS 20	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	5	0	0	6	1	16.67
Finding Sanctuary	Axe Estuary	FS 20	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Recover	5	0	0	6	1	16.67
Finding Sanctuary	Otter Estuary	FS 21	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	5	0	0	6	1	16.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Otter Estuary	FS 21	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	5	0	0	6	1	16.67
Finding Sanctuary	Otter Estuary	FS 21	Inshore	Coastal saltmarshes and saline reedbeds	BSH A2.5	Maintain	Maintain	5	0	0	6	1	16.67
Finding Sanctuary	Otter Estuary	FS 21	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	5	0	0	6	1	16.67
Finding Sanctuary	Otter Estuary	FS 21	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	5	0	0	6	1	16.67
Finding Sanctuary	Otter Estuary	FS 21	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Recover	5	0	0	6	1	16.67
Finding Sanctuary	Torbay	FS 22	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Subtidal mud	BSH A5.3	Recover	Recover	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	23	2	8.7	22	3	13.64

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Torbay	FS 22	Inshore	Seagrass beds	FOCI Habitat	Recover	Recover	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Long-snouted seahorse <i>Hippocampus guttulatus</i>	FOCI species	Maintain	Recover	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Peacock's tail <i>Padina pavonica</i>	FOCI species	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Sea snail <i>Paludinella littorina</i>	FOCI species	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Black throated diver <i>Gavia arctica</i>	Non-ENG feature	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Great northern diver <i>Gavia immer</i>	Non-ENG feature	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Great northern diver <i>Gavia immer</i>	Non-ENG feature	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Harbour porpoise <i>Phocoena phocoena</i>	Non-ENG feature	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Slavonian grebe <i>Podiceps auritus</i>	Non-ENG	Maintain	Maintain	23	2	8.7	22	3	13.64

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
					feature								
Finding Sanctuary	Torbay	FS 22	Inshore	Great crested grebe <i>Podiceps cristatus</i>	Non-ENG feature	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Red-necked grebe <i>Podiceps grisegena</i>	Non-ENG feature	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Black-necked grebe <i>Podiceps nigricollis</i>	Non-ENG feature	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Torbay	FS 22	Inshore	Common guillemot <i>Uria aalge</i>	Non-ENG feature	Maintain	Maintain	23	2	8.7	22	3	13.64
Finding Sanctuary	Dart Estuary	FS 23	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	7	0	0	8	1	12.50
Finding Sanctuary	Dart Estuary	FS 23	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	7	0	0	8	1	12.50
Finding Sanctuary	Dart Estuary	FS 23	Inshore	Coastal saltmarshes and saline reedbeds	BSH A2.5	Maintain	Maintain	7	0	0	8	1	12.50
Finding Sanctuary	Dart Estuary	FS 23	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	7	0	0	8	1	12.50
Finding Sanctuary	Dart Estuary	FS 23	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	7	0	0	8	1	12.50
Finding Sanctuary	Dart Estuary	FS 23	Inshore	Estuarine rocky habitats	FOCI Habitat	Maintain	Maintain	7	0	0	8	1	12.50

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Dart Estuary	FS 23	Inshore	Tentacled lagoon-worm <i>Alkmaria romijni</i>	FOCI species	Maintain	Maintain	7	0	0	8	1	12.50
Finding Sanctuary	Dart Estuary	FS 23	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Recover	7	0	0	8	1	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	16	1	6.25	16	2	12.50

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Recover	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Short-snouted seahorse <i>Hippocampus hippocampus</i>	FOCI species	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	16	1	6.25	16	2	12.50
Finding Sanctuary	Skerries Bank and surrounds	FS 24	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	16	1	6.25	16	2	12.50
Finding Sanctuary	Devon Avon Estuary	FS 25	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	9	0	0	10	1	10.00
Finding Sanctuary	Devon Avon	FS 25	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	9	0	0	10	1	10.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Estuary												
Finding Sanctuary	Devon Avon Estuary	FS 25	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	9	0	0	10	1	10.00
Finding Sanctuary	Devon Avon Estuary	FS 25	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	9	0	0	10	1	10.00
Finding Sanctuary	Devon Avon Estuary	FS 25	Inshore	Coastal saltmarshes and saline reedbeds	BSH A2.5	Maintain	Maintain	9	0	0	10	1	10.00
Finding Sanctuary	Devon Avon Estuary	FS 25	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	9	0	0	10	1	10.00
Finding Sanctuary	Devon Avon Estuary	FS 25	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	9	0	0	10	1	10.00
Finding Sanctuary	Devon Avon Estuary	FS 25	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	9	0	0	10	1	10.00
Finding Sanctuary	Devon Avon Estuary	FS 25	Inshore	Tentacled lagoon-worm <i>Alkmaria romijni</i>	FOCI species	Maintain	Maintain	9	0	0	10	1	10.00
Finding Sanctuary	Devon Avon Estuary	FS 25	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Recover	9	0	0	10	1	10.00
Finding Sanctuary	Erme Estuary	FS 26	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	12	0	0	13	1	7.69

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Finding Sanctuary	Erme Estuary	FS 26	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	Low energy infralittoral rock	BSH A3.3	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	Sheltered muddy gravels	FOCI Habitat	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	Estuarine rocky habitats	FOCI Habitat	Maintain	Maintain	12	0	0	13	1	7.69
Finding Sanctuary	Erme Estuary	FS 26	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Recover	12	0	0	13	1	7.69
Finding Sanctuary	Tamar estuary sites	FS 27	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Recover	4	0	0	6	6	100.00
Finding Sanctuary	Tamar estuary sites	FS 27	Inshore	Intertidal biogenic reefs	BSH A2.7	Maintain	Recover	4	0	0	6	6	100.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Tamar estuary sites	FS 27	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Maintain	Recover	4	0	0	6	6	100.00
Finding Sanctuary	Tamar estuary sites	FS 27	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Recover?	4	0	0	6	6	100.00
Finding Sanctuary	Tamar estuary sites	FS 27	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Recover	4	0	0	6	6	100.00
Finding Sanctuary	Tamar estuary sites	FS 27	Inshore	Smelt <i>Osmerus eperlanus</i>	FOCI species	no CO - still to be assessed	Recover	4	0	0	6	6	100.00
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	17	0	0	17	2	11.76

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Seagrass beds	FOCI Habitat	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Giant goby <i>Gobius cobitis</i>	FOCI species	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Kaleidoscope jellyfish <i>Haliclystus auricula</i>	FOCI species	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Long-snouted seahorse <i>Hippocampus guttulatus</i>	FOCI species	Maintain	Maintain	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Recover	17	0	0	17	2	11.76
Finding Sanctuary	Whitsand and Looe	FS 28	Inshore	Ocean quahog <i>Arctica islandica</i>	FOCI species	Maintain	Maintain	17	0	0	17	2	11.76

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Bay												
Finding Sanctuary	Whitsand and Looe Bay	FS 28	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Recover	17	0	0	17	2	11.76
Finding Sanctuary	Upper Fowey and Pont Pill	FS 29	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	7	0	0	8	0	0.00
Finding Sanctuary	Upper Fowey and Pont Pill	FS 29	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	7	0	0	8	0	0.00
Finding Sanctuary	Upper Fowey and Pont Pill	FS 29	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	7	0	0	8	0	0.00
Finding Sanctuary	Upper Fowey and Pont Pill	FS 29	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	7	0	0	8	0	0.00
Finding Sanctuary	Upper Fowey and Pont Pill	FS 29	Inshore	Coastal saltmarshes and saline reedbeds	BSH A2.5	Maintain	Maintain	7	0	0	8	0	0.00
Finding Sanctuary	Upper Fowey and Pont Pill	FS 29	Inshore	Sheltered muddy gravels	FOCI Habitat	Maintain	Maintain	7	0	0	8	0	0.00
Finding Sanctuary	Upper Fowey and Pont Pill	FS 29	Inshore	Estuarine rocky habitats	FOCI Habitat	Maintain	Maintain	7	0	0	8	0	0.00
Finding Sanctuary	Upper Fowey and Pont Pill	FS 29	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Unknown	7	0	0	8	0	0.00
Finding	South-east	FS 30	Offshore	Subtidal coarse	BSH	Recover	Yes	2	2	100	1	1	100.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Sanctuary	of Falmouth			sediment	A5.1								
Finding Sanctuary	South-east of Falmouth	FS 30	Offshore	Subtidal sand	BSH A5.2	Recover	Advise not listed for designation						
Finding Sanctuary	South of Falmouth	FS 31	Inshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Recover	2	2	100	2	2	100.00
Finding Sanctuary	South of Falmouth	FS 31	Inshore	Subtidal coarse sediment	BSH A5.1	Recover	Recover	2	2	100	2	2	100.00
Finding Sanctuary	The Manacles	FS 32	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding	The	FS 32	Inshore	Subtidal mixed	BSH	Maintain	Maintain	19	1	5.26	19	3	15.79

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Sanctuary	Manacles			sediments	A5.4								
Finding Sanctuary	The Manacles	FS 32	Inshore	Subtidal macrophyte-dominated sediment	BSH A5.5	Maintain	Recover	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Maerl beds	FOCI Habitat	Maintain	Recover	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Kaleidoscope jellyfish <i>Haliclystus auricula</i>	FOCI species	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Sunset cup coral <i>Leptopsammia pruvoti</i>	FOCI species	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Basking shark <i>Cetorhinus maximus</i>	Non-ENG feature	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	The Manacles	FS 32	Inshore	Harbour porpoise <i>Phocoena phocoena</i>	Non-ENG feature	Maintain	Maintain	19	1	5.26	19	3	15.79
Finding Sanctuary	Mounts Bay	FS 33	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	14	0	0	14	0	0.00

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Seagrass beds	FOCI Habitat	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Giant goby <i>Gobius cobitis</i>	FOCI species	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Kaleidoscope jellyfish <i>Halicystus auricula</i>	FOCI species	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	FOCI species	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Stalked jellyfish <i>Lucernariopsis campanulata</i>	FOCI species	Maintain	Maintain	14	0	0	14	0	0.00
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Ocean quahog <i>Arctica islandica</i>	FOCI species	Maintain	Maintain	14	0	0	14	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Mounts Bay	FS 33	Inshore	Lagoon sandworm <i>Armandia cirrhosa</i>	FOCI species	no CO proposed	feature not proposed	14	0	0	14	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Sea snail <i>Paludinella littorina</i>	FOCI species	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	16	0	0	15	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Land's End	FS 34	Inshore	Basking shark <i>Cetorhinus maximus</i>	Non-ENG feature	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Bottlenose dolphin <i>Tursiops truncatus</i>	Non-ENG feature	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Balearic Shearwater <i>Puffinus mauretanicus</i>	Non-ENG feature	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Land's End	FS 34	Inshore	Harbour porpoise <i>Phocoena phocoena</i>	Non-ENG feature	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean non-disturbance area	FS 35a	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	10	0	0	10	0	0.00
Finding Sanctuary	Isles of Scilly: Tean non-disturbance area	FS 35a	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	10	0	0	10	0	0.00
Finding Sanctuary	Isles of Scilly: Tean non-disturbance area	FS 35a	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	10	0	0	10	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35a	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	10	0	0	10	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	non-disturbance area												
Finding Sanctuary	Isles of Scilly: Tean non-disturbance area	FS 35a	Inshore	Subtidal macrophyte-dominated sediment	BSH A5.5	Maintain	Maintain	10	0	0	10	0	0.00
Finding Sanctuary	Isles of Scilly: Tean non-disturbance area	FS 35a	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	10	0	0	10	0	0.00
Finding Sanctuary	Isles of Scilly: Tean non-disturbance area	FS 35a	Inshore	Seagrass beds	FOCI Habitat	Maintain	Maintain	10	0	0	10	0	0.00
Finding Sanctuary	Isles of Scilly: Tean non-disturbance area	FS 35a	Inshore	Tide swept channels	FOCI Habitat	Maintain	Maintain	10	0	0	10	0	0.00
Finding Sanctuary	Isles of Scilly: Tean non-disturbance area	FS 35a	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Maintain	Maintain	10	0	0	10	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35a	Inshore	Stalked jellyfish <i>Lucernariopsis</i>	FOCI species	Maintain	Maintain	10	0	0	10	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	non-disturbance area			<i>campanulata</i>									
Finding Sanctuary	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	7	1	14.29	7	1	14.29
Finding Sanctuary	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	7	1	14.29	7	1	14.29
Finding Sanctuary	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	7	1	14.29	7	1	14.29
Finding Sanctuary	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Inshore	Tide swept channels	FOCI Habitat	Maintain	Maintain	7	1	14.29	7	1	14.29
Finding Sanctuary	Isles of Scilly: Smith	FS 35b	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Maintain	7	1	14.29	7	1	14.29

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Sound non-disturbance area												
Finding Sanctuary	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	recover	7	1	14.29	7	1	14.29
Finding Sanctuary	Isles of Scilly: Smith Sound non-disturbance area	FS 35b	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	7	1	14.29	7	1	14.29
Finding Sanctuary	Isles of Scilly: Bishop to Crim	FS 35c	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	8	1	12.5	8	1	12.50
Finding Sanctuary	Isles of Scilly: Bishop to Crim	FS 35c	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	8	1	12.5	8	1	12.50
Finding Sanctuary	Isles of Scilly: Bishop to Crim	FS 35c	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	8	1	12.5	8	1	12.50
Finding Sanctuary	Isles of Scilly: Bishop to	FS 35c	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	8	1	12.5	8	1	12.50

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Crim												
Finding Sanctuary	Isles of Scilly: Bishop to Crim	FS 35c	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	8	1	12.5	8	1	12.50
Finding Sanctuary	Isles of Scilly: Bishop to Crim	FS 35c	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Maintain	Maintain	8	1	12.5	8	1	12.50
Finding Sanctuary	Isles of Scilly: Bishop to Crim	FS 35c	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	8	1	12.5	8	1	12.50
Finding Sanctuary	Isles of Scilly: Bishop to Crim	FS 35c	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	8	1	12.5	8	1	12.50
Finding Sanctuary	Isles of Scilly: Bristows to the Stones	FS 35d	Inshore	High energy infralittoral rock	BSH A3.1	Recover	Recover	9	7	77.78	9	7	77.78
Finding Sanctuary	Isles of Scilly: Bristows to the Stones	FS 35d	Inshore	Moderate energy infralittoral rock	BSH A3.2	Recover	Recover	9	7	77.78	9	7	77.78
Finding Sanctuary	Isles of Scilly: Bristows to	FS 35d	Inshore	High energy circalittoral rock	BSH A4.1	Recover	Recover	9	7	77.78	9	7	77.78

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	the Stones												
Finding Sanctuary	Isles of Scilly: Bristows to the Stones	FS 35d	Inshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Recover	9	7	77.78	9	7	77.78
Finding Sanctuary	Isles of Scilly: Bristows to the Stones	FS 35d	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	9	7	77.78	9	7	77.78
Finding Sanctuary	Isles of Scilly: Bristows to the Stones	FS 35d	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	9	7	77.78	9	7	77.78
Finding Sanctuary	Isles of Scilly: Bristows to the Stones	FS 35d	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Recover	Recover	9	7	77.78	9	7	77.78
Finding Sanctuary	Isles of Scilly: Bristows to the Stones	FS 35d	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	9	7	77.78	9	7	77.78
Finding Sanctuary	Isles of Scilly: Bristows to the Stones	FS 35d	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Recover	Recover	9	7	77.78	9	7	77.78
Finding Sanctuary	Isles of Scilly: Gilstone to	FS 35e	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	15	1	6.67	15	1	6.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Gorregan												
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Tide swept channels	FOCI Habitat	Maintain	Maintain	15	1	6.67	15	1	6.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Giant goby <i>Gobius cobitis</i>	FOCI species	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Kaleidoscope jellyfish <i>Halicyclstus auricula</i>	FOCI species	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Sea snail <i>Paludinella littorina</i>	FOCI species	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Gilstone to Gorregan	FS 35e	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	15	1	6.67	15	1	6.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Low energy infralittoral rock	BSH A3.3	Maintain	Maintain	17	1	5.88	17	1	5.88

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Low energy circalittoral rock	BSH A4.3	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	17	1	5.88	17	1	5.88

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Sunset cup coral <i>Leptopsammia pruvoti</i>	FOCI species	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Hanjague to Deep Ledge	FS 35f	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	17	1	5.88	17	1	5.88
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	16	0	0	15	0	0.00
Finding	Isles of	FS	Inshore	Low energy	BSH	Maintain	Maintain	16	0	0	15	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Sanctuary	Scilly: Higher Town	35g		intertidal rock	A1.3								
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Intertidal mud	BSH A2.3	Maintain	Intertidal Mud doesn't occur in the Isles of Scilly, therefore a CO should not be assigned	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	16	0	0	15	0	0.00

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Subtidal macrophyte-dominated sediment	BSH A5.5	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Seagrass beds	FOCI Habitat	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Tide swept channels	FOCI Habitat	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly:	FS 35g	Inshore	Kaleidoscope jellyfish <i>Halicylistus</i>	FOCI species	Maintain	Maintain	16	0	0	15	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Higher Town			<i>auricula</i>									
Finding Sanctuary	Isles of Scilly: Higher Town	FS 35g	Inshore	Stalked jellyfish <i>Lucernariopsis campanulata</i>	FOCI species	Maintain	Maintain	16	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to	FS 35h	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	15	1	6.67	15	1	6.67

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Innisvouls												
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Subtidal macrophyte-dominated sediment	BSH A5.5	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Seagrass beds	FOCI Habitat	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Tide swept channels	FOCI Habitat	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower	FS 35h	Inshore	Fragile sponge and anthozoan communities on	FOCI Habitat	Maintain	Maintain	15	1	6.67	15	1	6.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Ridge to Innisvouls			subtidal rocky habitat									
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Sunset cup coral <i>Leptopsammia pruvoti</i>	FOCI species	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Lower Ridge to Innisvouls	FS 35h	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	15	1	6.67	15	1	6.67
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men	FS 35i	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	19	1	5.26	18	1	5.56

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	a Vaur to White Island												
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Intertidal mud	BSH A2.3	Maintain	Intertidal Mud doesn't occur in the Isles of Scilly, therefore a CO should not be assigned	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	19	1	5.26	18	1	5.56

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Seagrass beds	FOCI Habitat	Maintain	Maintain	19	1	5.26	18	1	5.56

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Tide swept channels	FOCI Habitat	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Kaleidoscope jellyfish <i>Haliclystus auricula</i>	FOCI species	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Stalked jellyfish <i>Lucernariopsis campanulata</i>	FOCI species	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	19	1	5.26	18	1	5.56

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Men a Vaur to White Island	FS 35i	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	19	1	5.26	18	1	5.56
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	24	1	4.17	24	1	4.17

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly:	FS 35j	Inshore	Intertidal underboulder	FOCI Habitat	Maintain	Maintain	24	1	4.17	24	1	4.17

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Peninnis to Dry Ledge			communities									
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Giant goby <i>Gobius cobitis</i>	FOCI species	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Kaleidoscope jellyfish <i>Haliclystus auricula</i>	FOCI species	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Sunset cup coral <i>Leptopsammia pruvoti</i>	FOCI species	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Stalked jellyfish <i>Lucernariopsis campanulata</i>	FOCI species	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to	FS 35j	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	24	1	4.17	24	1	4.17

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Dry Ledge												
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Sea snail <i>Paludjinella littorina</i>	FOCI species	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Ocean quahog <i>Arctica islandica</i>	FOCI species	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	DeFolin's lagoon snail <i>Caecum armoricum</i>	FOCI species	no feature/CO proposed	feature not proposed	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Peninnis to Dry Ledge	FS 35j	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	24	1	4.17	24	1	4.17
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly:	FS 35k	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	14	1	7.14	14	1	7.14

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Plympton to Spanish Ledge												
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly:	FS 35k	Inshore	Intertidal underboulder	FOCI Habitat	Maintain	Maintain	14	1	7.14	14	1	7.14

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Plympton to Spanish Ledge			communities									
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	Sunset cup coral <i>Leptopsammia pruvoti</i>	FOCI species	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly: Plympton to Spanish Ledge	FS 35k	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	14	1	7.14	14	1	7.14
Finding Sanctuary	Isles of Scilly:	FS 35k	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	13	1	7.69	13	1	7.69

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Smith Sound Tide Swept Channel												
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35I	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35I	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35I	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35I	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly:	FS 35I	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	13	1	7.69	13	1	7.69

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Smith Sound Tide Swept Channel												
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35I	Inshore	Tide swept channels	FOCI Habitat	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35I	Inshore	Giant goby <i>Gobius cobitis</i>	FOCI species	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35I	Inshore	Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	FOCI species	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35I	Inshore	Sea-fan anemone <i>Amphianthus dohrnii</i>	FOCI species	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly:	FS 35I	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	13	1	7.69	13	1	7.69

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Smith Sound Tide Swept Channel												
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35l	Inshore	Burgundy maerl paint weed <i>Cruoria cruoriaeformis</i>	FOCI species	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly: Smith Sound Tide Swept Channel	FS 35l	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	13	1	7.69	13	1	7.69
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	15	0	0	15	0	0.00

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Subtidal macrophyte-dominated sediment	BSH A5.5	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Seagrass beds	FOCI Habitat	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Tide swept channels	FOCI Habitat	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Isles of Scilly: Tean	FS 35m	Inshore	Stalked jellyfish <i>Lucernariopsis campanulata</i>	FOCI species	Maintain	Maintain	15	0	0	15	0	0.00
Finding Sanctuary	Cape Bank	FS 36	Offshore/ inshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Recover	3	3	100	3	3	100.00
Finding Sanctuary	Cape Bank	FS 36	Offshore/ inshore	Subtidal coarse sediment	BSH A5.1	Recover	Recover	3	3	100	3	3	100.00
Finding Sanctuary	Cape Bank	FS 36	Offshore/ inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	3	3	100	3	3	100.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Coastal saltmarshes and saline reedbeds	BSH A2.5	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	14	0	0	15	1	6.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Giant goby <i>Gobius cobitis</i>	FOCI species	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Native oyster <i>Ostrea edulis</i>	FOCI species	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Sea snail <i>Paludina littorina</i>	FOCI species	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Recover	14	0	0	15	1	6.67
Finding Sanctuary	Newquay and the Gannel	FS 37	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	14	0	0	15	1	6.67
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	21	1	4.76	20	1	5.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Kaleidoscope jellyfish <i>Haliclystus auricula</i>	FOCI species	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Stalked jellyfish <i>Lucernariopsis cruxmelitensis</i>	FOCI species	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Ocean quahog <i>Arctica islandica</i>	FOCI species	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Fan mussel <i>Atrina pectinata</i> ³⁷	FOCI species	no feature/CO proposed	feature not proposed	21	1	4.76	20	1	5.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Bottlenose dolphin <i>Tursiops truncatus</i>	Non-ENG feature	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Black-legged kittiwake <i>Rissa tridactyla</i>	Non-ENG feature	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Razorbill <i>Alca torda</i>	Non-ENG feature	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Puffin <i>Fratercula arctica</i>	Non-ENG feature	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Northern Fulmar <i>Fulmarus glacialis</i>	Non-ENG feature	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Padstow Bay and surrounds	FS 38	Inshore	Common guillemot <i>Uria aalge</i>	Non-ENG feature	Maintain	Maintain	21	1	4.76	20	1	5.00
Finding Sanctuary	Camel Estuary	FS 39	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	4	0	0	6	1	16.67
Finding Sanctuary	Camel Estuary	FS 39	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	4	0	0	6	1	16.67
Finding Sanctuary	Camel Estuary	FS 39	Inshore	Intertidal mud	BSH A2.3	no CO - still to be assessed	Maintain	4	0	0	6	1	16.67
Finding Sanctuary	Camel Estuary	FS 39	Inshore	Coastal saltmarshes and	BSH A2.5	Maintain	Maintain	4	0	0	6	1	16.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
				saline reedbeds									
Finding Sanctuary	Camel Estuary	FS 39	Inshore	Estuarine rocky habitats	FOCI Habitat	Maintain	Maintain	4	0	0	6	1	16.67
Finding Sanctuary	Camel Estuary	FS 39	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Recover	4	0	0	6	1	16.67
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Coastal saltmarshes and saline reedbeds	BSH A2.5	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to	FS 40	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	13	0	0	14	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	Tintagel												
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Fragile sponge and anthozoan communities on subtidal rocky habitat	FOCI Habitat	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Peacock's tail <i>Padina pavonica</i>	FOCI species	Maintain	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Hartland Point to Tintagel	FS 40	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	no CO - still to be assessed	Maintain	13	0	0	14	0	0.00
Finding Sanctuary	Lundy	FS 41	Inshore	Mud habitats in deep water	FOCI Habitat	Maintain	Maintain	6	1	16.67	6	1	16.67
Finding Sanctuary	Lundy	FS 41	Inshore	Spiny lobster <i>Palinurus elephas</i>	FOCI species	Recover	Recover	6	1	16.67	6	1	16.67
Finding Sanctuary	Lundy	FS 41	Inshore	Razorbill <i>Alca torda</i>	Non-ENG feature	Maintain	Maintain	6	1	16.67	6	1	16.67

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Finding Sanctuary	Lundy	FS 41	Inshore	Puffin <i>Fratercula arctica</i>	Non-ENG feature	Maintain	Maintain	6	1	16.67	6	1	16.67
Finding Sanctuary	Lundy	FS 41	Inshore	Manx shearwater <i>Puffinus puffinus</i>	Non-ENG feature	Maintain	Maintain	6	1	16.67	6	1	16.67
Finding Sanctuary	Lundy	FS 41	Inshore	Common guillemot <i>Uria aalge</i>	Non-ENG feature	Maintain	Maintain	6	1	16.67	6	1	16.67
Finding Sanctuary	Taw Torridge Estuaries	FS 42	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	6	0	0	7	1	14.29
Finding Sanctuary	Taw Torridge Estuaries	FS 42	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	6	0	0	7	1	14.29
Finding Sanctuary	Taw Torridge Estuaries	FS 42	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	6	0	0	7	1	14.29
Finding Sanctuary	Taw Torridge Estuaries	FS 42	Inshore	Coastal saltmarshes and saline reedbeds	BSH A2.5	Maintain	Maintain	6	0	0	7	1	14.29
Finding Sanctuary	Taw Torridge Estuaries	FS 42	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	6	0	0	7	1	14.29
Finding Sanctuary	Taw Torridge Estuaries	FS 42	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	6	0	0	7	1	14.29
Finding Sanctuary	Taw Torridge Estuaries	FS 42	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	no CO - still to be assessed	Advise a 'recover' conservati	6	0	0	7	1	14.29

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
							on objective						
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding	Bideford to	FS 43	Inshore	High energy	BSH	Recover	Maintain	19	1	5.26	19	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Sanctuary	Foreland Point			circalittoral rock	A4.1								
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Sea snail <i>Paludinella littorina</i>	FOCI species	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Pink sea-fan <i>Eunicella verrucosa</i>	FOCI species	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Razorbill <i>Alca torda</i>	Non-ENG feature	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Grey seal <i>Halichoerus grypus</i>	Non-ENG feature	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Harbour porpoise <i>Phocoena phocoena</i>	Non-ENG feature	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding Sanctuary	Bideford to Foreland Point	FS 43	Inshore	Common guillemot <i>Uria aalge</i>	Non-ENG feature	Maintain	Maintain	19	1	5.26	19	0	0.00
Finding	Morte	FS 44	Inshore	High energy	BSH	Maintain	Maintain	3	0	0	3	0	0.00

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Sanctuary	Platform			circalittoral rock	A4.1								
Finding Sanctuary	Morte Platform	FS 44	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	3	0	0	3	0	0.00
Finding Sanctuary	Morte Platform	FS 44	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	3	0	0	3	0	0.00
Finding Sanctuary	North of Lundy (Atlantic Array area)	FS 45	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	North of Lundy (Atlantic Array area)	FS 45	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	North of Lundy (Atlantic Array area)	FS 45	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	4	0	0	4	0	0.00
Finding Sanctuary	North of Lundy (Atlantic Array area)	FS 45	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	4	0	0	4	0	0.00
Irish Sea Conservation Zones	Mud Hole	ISCZ 01	offshore/inshore	Subtidal mud	BSH A5.3	Recover	Yes	3	3	100	3	3	100.00
Irish Sea Conservation Zones	Mud Hole	ISCZ 01	offshore/inshore	Deep water mud habitats	FOCI Habitat	Recover	Yes						
Irish Sea Conservation Zones	Mud Hole	ISCZ 01	offshore/inshore	Seapens and burrowing megafauna	FOCI Habitat	Recover	Yes						

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Irish Sea Conservation Zones	West of Walney	ISCZ 02	Offshore/ inshore	Subtidal sand	BSH A5.2	Recover	Recover	3	3	100	3	3	100.00
Irish Sea Conservation Zones	West of Walney	ISCZ 02	Offshore/ inshore	Subtidal mud	BSH A5.3	Recover	Recover	3	3	100	3	3	100.00
Irish Sea Conservation Zones	West of Walney	ISCZ 02	Offshore/ inshore	Mud habitats in deep water	FOCI Habitat	Recover	Recover	3	3	100	3	3	100.00
Irish Sea Conservation Zones	West of Walney	ISCZ 02	Offshore/ inshore	Sea pens and burrowing megafauna	FOCI Habitat	Recover	Recover	3	3	100	3	3	100.00
Irish Sea Conservation Zones	West of Walney (extension)	ISCZ 02a&b	Offshore/ inshore	Subtidal sand	BSH A5.2	Recover	Recover	4	4	100	4	4	100.00
Irish Sea Conservation Zones	West of Walney (extension)	ISCZ 02a&b	Offshore/ inshore	Subtidal mud	BSH A5.3	Recover	Recover	4	4	100	4	4	100.00
Irish Sea Conservation Zones	West of Walney (extension)	ISCZ 02a&b	Offshore/ inshore	Seapens and burrowing megafauna	FOCI Habitat	Recover	Recover	4	4	100	4	4	100.00
Irish Sea Conservation Zones	West of Walney (extension)	ISCZ 02a&b	Offshore/ inshore	Mud habitats in deep water	FOCI Habitat	Recover	Recover	4	4	100	4	4	100.00
Irish Sea Conservation Zones	North St. George's Channel	ISCZ 03a	offshore	High energy circalittoral rock	BSH A4.1	Maintain	Yes	9	4	44	7	2	29.00
Irish Sea Conservation Zones	North St. George's Channel	ISCZ 03a	offshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Yes						

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Irish Sea Conservation Zones	North St. George's Channel	ISCZ 03a	offshore	Subtidal coarse sediment	BSH A5.1	Maintain	Yes						
Irish Sea Conservation Zones	North St. George's Channel	ISCZ 03a	offshore	Subtidal sand	BSH A5.2	Recover	Yes						
Irish Sea Conservation Zones	North St. George's Channel	ISCZ 03a	offshore	Subtidal mixed sediments	BSH A5.4	Maintain	Yes						
Irish Sea Conservation Zones	North St. George's Channel	ISCZ 03a	offshore	Subtidal biogenic reefs	BSH A5.6	Recover	Advise not listed for designation						
Irish Sea Conservation Zones	North St. George's Channel	ISCZ 03a	offshore	Subtidal sands and gravels	FOCI Habitat	Recover	Yes						
Irish Sea Conservation Zones	North St. George's Channel	ISCZ 03a	offshore	Horse mussel <i>Modiolus modiolus</i> beds	FOCI Habitat	Recover	Advise not listed for designation						
Irish Sea Conservation Zones	North St. George's Channel	ISCZ 03a	offshore	Drumlins	Geological feature	Maintain	Yes						
Irish Sea Conservation Zones	Mid St. George's Channel	ISCZ 04	offshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Yes	5	4	80	5	4	80.00
Irish Sea Conservation	Mid St. George's	ISCZ 04	offshore	Subtidal coarse sediment	BSH A5.1	Recover	Yes						

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)	
on Zones	Channel													
Irish Sea Conservati on Zones	Mid St. George's Channel	ISCZ 04	offshore	Subtidal sand	BSH A5.2	Recover	Yes							
Irish Sea Conservati on Zones	Mid St. George's Channel	ISCZ 04	offshore	Subtidal mixed sediments	BSH A5.4	Recover	Yes							
Irish Sea Conservati on Zones	Mid St. George's Channel	ISCZ 04	offshore	Subtidal sands and gravels	FOCI Habitat	Recover	Yes							
Irish Sea Conservati on Zones	North of Celtic Deep	ISCZ 05	offshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Yes							
Irish Sea Conservati on Zones	North of Celtic Deep	ISCZ 05	offshore	Subtidal coarse sediment	BSH A5.1	Recover	Yes							
Irish Sea Conservati on Zones	North of Celtic Deep	ISCZ 05	offshore	Subtidal sand	BSH A5.2	Recover	Yes	4	3	75	4	3	75.00	
Irish Sea Conservati on Zones	North of Celtic Deep	ISCZ 05	offshore	Subtidal sands and gravels	FOCI Habitat	Recover	Yes							
Irish Sea Conservati on Zones	South Rigg	ISCZ 06	offshore	Low energy circalittoral rock	BSH A4.3	Recover	Yes							
Irish Sea Conservati on Zones	South Rigg	ISCZ 06	offshore	Subtidal sand	BSH A5.2	Recover	Yes	6	6	100	6	6	100.00	

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Irish Sea Conservation Zones	South Rigg	ISCZ 06	offshore	Subtidal mud	BSH A5.3	Recover	Yes						
Irish Sea Conservation Zones	South Rigg	ISCZ 06	offshore	Deep water mud habitats	FOCI Habitat	Recover	Yes						
Irish Sea Conservation Zones	South Rigg	ISCZ 06	offshore	Seapens and burrowing megafauna	FOCI Habitat	Recover	Yes						
Irish Sea Conservation Zones	South Rigg	ISCZ 06	offshore	Ocean quahog <i>Arctica islandica</i>	FOCI species	Recover	Yes						
Irish Sea Conservation Zones	Slieve Na Griddle	ISCZ 07	offshore	Low energy circalittoral rock	BSH A4.3	Recover	Advise not listed for designation						
Irish Sea Conservation Zones	Slieve Na Griddle	ISCZ 07	offshore	Subtidal mud	BSH A5.3	Recover	Yes	3	3	100	2	2	100.00
Irish Sea Conservation Zones	Slieve Na Griddle	ISCZ 07	offshore	Deep water mud habitats	FOCI Habitat	Recover	Yes						
Irish Sea Conservation Zones	Flyde Offshore	ISCZ 08	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	2	0	0	2	0	0.00
Irish Sea Conservation Zones	Flyde Offshore	ISCZ 08	Inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	2	0	0	2	0	0.00

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Irish Sea Conservation Zones	Allonby Bay	ISCZ 10	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	8	0	0	8	0	0.00
Irish Sea Conservation Zones	Allonby Bay	ISCZ 10	Inshore	Intertidal biogenic reefs	BSH A2.7	Maintain	Maintain	8	0	0	8	0	0.00
Irish Sea Conservation Zones	Allonby Bay	ISCZ 10	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	8	0	0	8	0	0.00
Irish Sea Conservation Zones	Allonby Bay	ISCZ 10	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	8	0	0	8	0	0.00
Irish Sea Conservation Zones	Allonby Bay	ISCZ 10	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Maintain	Maintain	8	0	0	8	0	0.00
Irish Sea Conservation Zones	Allonby Bay	ISCZ 10	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	8	0	0	8	0	0.00
Irish Sea Conservation Zones	Allonby Bay	ISCZ 10	Inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	8	0	0	8	0	0.00
Irish Sea Conservation Zones	Allonby Bay	ISCZ 10	Inshore	Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	Maintain	Maintain	8	0	0	8	0	0.00
Irish Sea Conservation Zones	Cumbria Coast	ISCZ 11	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	9	3	33.33	9	4	44.44
Irish Sea Conservation Zones	Cumbria Coast	ISCZ 11	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	9	3	33.33	9	4	44.44

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Irish Sea Conservation Zones	Cumbria Coast	ISCZ 11	Inshore	Intertidal biogenic reefs	BSH A2.7	Recover	Recover	9	3	33.33	9	4	44.44
Irish Sea Conservation Zones	Cumbria Coast	ISCZ 11	Inshore	High energy infralittoral rock	BSH A3.1	Recover	Recover	9	3	33.33	9	4	44.44
Irish Sea Conservation Zones	Cumbria Coast	ISCZ 11	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Maintain	Maintain	9	3	33.33	9	4	44.44
Irish Sea Conservation Zones	Cumbria Coast	ISCZ 11	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	9	3	33.33	9	4	44.44
Irish Sea Conservation Zones	Cumbria Coast	ISCZ 11	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	9	3	33.33	9	4	44.44
Irish Sea Conservation Zones	Cumbria Coast	ISCZ 11	Inshore	Honeycomb worm <i>Sabellaria alveolata</i> reefs	FOCI Habitat	Recover	Recover	9	3	33.33	9	4	44.44
Irish Sea Conservation Zones	Cumbria Coast	ISCZ 11	Inshore	Black guillemot <i>Cephus grylle</i>	Non-ENG feature	Maintain	Recover	9	3	33.33	9	4	44.44
Irish Sea Conservation Zones	Sefton Coast	ISCZ 13	Inshore	Peat and clay exposures	FOCI Habitat	Recover	Recover	1	1	100	1	1	100.00
Irish Sea Conservation Zones	Hilbre Island Group	ISCZ 14	Inshore	Blue Mussel Beds <i>Mytilus edulis</i>	FOCI Habitat	Recover	Recover	2	2	100	2	1	50.00
Irish Sea Conservation Zones	Hilbre Island Group	ISCZ 14	Inshore	Peat and clay exposures	FOCI Habitat	Recover	Recover	2	2	100	2	1	50.00

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Irish Sea Conservation Zones	Solway Firth	ISCZ 15	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	Maintain	Maintain	2	0	0	2	0	0.00
Irish Sea Conservation Zones	Solway Firth	ISCZ 15	Inshore	Smelt <i>Osmerus eperlanus</i>	FOCI species	Maintain	Maintain	2	0	0	2	0	0.00
Irish Sea Conservation Zones	Wyre-Lune Estuary	ISCZ 16	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	Maintain	Maintain	2	0	0	2	0	0.00
Irish Sea Conservation Zones	Wyre-Lune Estuary	ISCZ 16	Inshore	Smelt <i>Osmerus eperlanus</i>	FOCI species	Maintain	Maintain	2	0	0	2	0	0.00
Irish Sea Conservation Zones	Ribble Estuary	ISCZ 17	Inshore	European eel <i>Anguilla anguilla</i>	FOCI species	Maintain	Maintain	2	0	0	2	0	0.00
Irish Sea Conservation Zones	Ribble Estuary	ISCZ 17	Inshore	Smelt <i>Osmerus eperlanus</i>	FOCI species	Maintain	Maintain	2	0	0	2	0	0.00
Net Gain	Orford Inshore	NG 01b	Inshore	Subtidal mixed sediments	BSH A5.4	Recover	Recover	1	1	100	1	1	100.00
Net Gain	Alde Ore Estuary	NG 01c	Inshore	Sheltered muddy gravels	FOCI Habitat	Maintain	Maintain	4	0	0	4	0	0.00
Net Gain	Alde Ore Estuary	NG 01c	Inshore	Estuarine rocky habitats	FOCI Habitat	Maintain	Maintain	4	0	0	4	0	0.00
Net Gain	Alde Ore Estuary	NG 01c	Inshore	Smelt <i>Osmerus eperlanus</i>	FOCI species	Maintain	Maintain	4	0	0	4	0	0.00
Net Gain	Alde Ore Estuary	NG 01c	Inshore	Orfordness (Subtidal)	Geological feature	Maintain	Maintain	4	0	0	4	0	0.00

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Net Gain	Cromer Shoal Chalk Beds	NG 02	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Cromer Shoal Chalk Beds	NG 02	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Cromer Shoal Chalk Beds	NG 02	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Cromer Shoal Chalk Beds	NG 02	Inshore	Subtidal chalk	FOCI Habitat	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Cromer Shoal Chalk Beds	NG 02	Inshore	North Norfolk coast (Subtidal)	Geological feature	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Wash Approach	NG 04	Offshore/inshore	Subtidal sand	BSH A5.2	Maintain	Advice pending further discussion	3	0	0	Advice pending further discussion	Advice pending further discussion	Advice pending further discussion
Net Gain	Wash Approach	NG 04	Offshore/inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Advice pending further discussion						
Net Gain	Wash Approach	NG 04	Offshore/inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Advice pending further discussion						

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								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Net Gain	Lincs Belt	NG 05	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Lincs Belt	NG 05	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Lincs Belt	NG 05	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Lincs Belt	NG 05	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Lincs Belt	NG 05	Inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	5	0	0	5	0	0.00
Net Gain	Silver Pit	NG 06	Offshore	Subtidal sand	BSH A5.2	Recover	Yes	5	3	60	5	4	80.00
Net Gain	Silver Pit	NG 06	Offshore	Subtidal mixed sediments	BSH A5.4	Recover	Yes						
Net Gain	Silver Pit	NG 06	Offshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Maintain	No						
Net Gain	Silver Pit	NG 06	Offshore	Subtidal sands and gravels (modelled)	FOCI Habitat	Recover	Yes						
Net Gain	Silver Pit	NG 06	Offshore	North Sea glacial tunnel valleys	Geological feature	Maintain	Yes						
Net Gain	Markham's triangle	NG 07	Offshore	Subtidal coarse sediment	BSH A5.1	Recover	Recover	2	2	100	2	2	100.00
Net Gain	Markham's triangle	NG 07	Offshore	Subtidal sand	BSH A5.2	Recover	Recover	2	2	100	2	2	100.00
Net Gain	Holderness Inshore	NG 08	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Holderness	NG 08	Inshore	Subtidal coarse	BSH	Maintain	Maintain	8	0	0	8	0	0.00

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	Inshore			sediment	A5.1								
Net Gain	Holderness Inshore	NG 08	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Holderness Inshore	NG 08	Inshore	Peat and clay exposures	FOCI Habitat	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Holderness Inshore	NG 08	Inshore	Ross worm <i>Sabellaria spinulosa</i> reefs	FOCI Habitat	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Holderness Inshore	NG 08	Inshore	Subtidal chalk	FOCI Habitat	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Holderness Inshore	NG 08	Inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Holderness Inshore	NG 08	Inshore	Spurn Head (Subtidal)	Geological feature	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Holderness offshore (formerly Damnation Alley - Westermot Rough)	NG 09	Offshore/inshore	Subtidal coarse sediment	BSH A5.1	Recover	Yes	2	2	100	JNCC agrees with site final recommendation	JNCC agrees with site final recommendation	JNCC agrees with site final recommendation
Net Gain	Holderness offshore (formerly Damnation Alley - Westermot Rough)	NG 09	Offshore/inshore	Subtidal mixed sediments	BSH A5.4	Recover	Yes						

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Net Gain	Castle Ground	NG 10	Inshore	High energy intertidal rock	BSH A1.1	Maintain	Maintain	7	0	0	7	1	14.29
Net Gain	Castle Ground	NG 10	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	7	0	0	7	1	14.29
Net Gain	Castle Ground	NG 10	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	7	0	0	7	1	14.29
Net Gain	Castle Ground	NG 10	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	7	0	0	7	1	14.29
Net Gain	Castle Ground	NG 10	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	7	0	0	7	1	14.29
Net Gain	Castle Ground	NG 10	Inshore	Intertidal mud	BSH A2.3	Maintain	Recover	7	0	0	7	1	14.29
Net Gain	Castle Ground	NG 10	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	7	0	0	7	1	14.29
Net Gain	Runswick Bay	NG 11	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Runswick Bay	NG 11	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Runswick Bay	NG 11	Inshore	High energy circalittoral rock	BSH A4.1	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Runswick Bay	NG 11	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Runswick Bay	NG 11	Inshore	Subtidal coarse sediment	BSH A5.1	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Runswick Bay	NG 11	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Runswick Bay	NG 11	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	8	0	0	8	0	0.00

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Net Gain	Runswick Bay	NG 11	Inshore	Ocean quahog <i>Arctica islandica</i>	FOCI species	Maintain	Maintain	8	0	0	8	0	0.00
Net Gain	Compass Rose	NG 12	Offshore	Moderate energy circalittoral rock	BSH A4.2	Recover	Yes	1	1	100	JNCC agrees with site final recommendation	JNCC agrees with site final recommendation	JNCC agrees with site final recommendation
Net Gain	Coquet to St Mary's	NG 13	Inshore	Moderate energy intertidal rock	BSH A1.2	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Low energy intertidal rock	BSH A1.3	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Intertidal coarse sediment	BSH A2.1	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Intertidal sand and muddy sand	BSH A2.2	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Intertidal mixed sediments	BSH A2.4	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Moderate energy infralittoral rock	BSH A3.2	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to	NG 13	Inshore	Subtidal coarse	BSH	Maintain	Maintain	14	0	0	14	0	0.00

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
	St Mary's			sediment	A5.1								
Net Gain	Coquet to St Mary's	NG 13	Inshore	Subtidal sand	BSH A5.2	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Subtidal mud	BSH A5.3	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Subtidal mixed sediments	BSH A5.4	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Coquet to St Mary's	NG 13	Inshore	Intertidal underboulder communities	FOCI Habitat	Maintain	Maintain	14	0	0	14	0	0.00
Net Gain	Aln Estuary	NG 13a	Inshore	Intertidal mud	BSH A2.3	Maintain	Maintain	6	0	0	6	0	0.00
Net Gain	Aln Estuary	NG 13a	Inshore	Coastal saltmarshes and saline reedbeds	BSH A2.5	Maintain	Maintain	6	0	0	6	0	0.00
Net Gain	Aln Estuary	NG 13a	Inshore	High energy infralittoral rock	BSH A3.1	Maintain	Maintain	6	0	0	6	0	0.00
Net Gain	Aln Estuary	NG 13a	Inshore	Sheltered muddy gravels	FOCI Habitat	Maintain	Maintain	6	0	0	6	0	0.00
Net Gain	Aln Estuary	NG 13a	Inshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	6	0	0	6	0	0.00
Net Gain	Aln Estuary	NG 13a	Inshore	Estuarine rocky habitats	FOCI Habitat	Maintain	Maintain	6	0	0	6	0	0.00
Net Gain	Farnes East	NG 14	Offshore/inshore	Moderate energy circalittoral rock	BSH A4.2	Maintain	No	6	1	17	6	5	83.00
Net Gain	Farnes East	NG 14	Offshore/inshore	Subtidal coarse sediment	BSH A5.1	Maintain	No						
Net Gain	Farnes East	NG 14	Offshore/inshore	Subtidal sand	BSH A5.2	Maintain	No						

Regional Project ID	Site Name	Site ID	Offshore/ inshore	Feature name	Feature Type	Final CO recommended in report	SNCB agree/disagree with final recommendation	SITE RISK ASSESSMENT(Final recommendations)			SITE RISK ASSESSMENT (post advice)		
								# features with COs in site (final recommendation)	# of recover objectives (final recommendation)	SITE RISK SCORE (final recommendation)	# features with COs in site (advised).	# of recover objectives (advised).	SITE RISK SCORE (post advice)
Net Gain	Farnes East	NG 14	Offshore/inshore	Subtidal mud	BSH A5.3	Recover	Yes						
Net Gain	Farnes East	NG 14	Offshore/inshore	Subtidal mixed sediments	BSH A5.4	Maintain	No						
Net Gain	Farnes East	NG 14	Offshore/inshore	Peat and clay exposures	FOCI Habitat	Maintain	Yes						
Net Gain	Rock Unique	NG 15	Offshore	Low energy circalittoral rock	BSH A4.3	Maintain	Maintain	3	0	0	3	0	0.00
Net Gain	Rock Unique	NG 15	Offshore	subtidal coarse sediment	BSH A5.1	Maintain	Maintain	3	0	0	3	0	0.00
Net Gain	Rock Unique	NG 15	Offshore	Subtidal sand	BSH A5.2	Maintain	Maintain	3	0	0	3	0	0.00
Net Gain	Rock Unique	NG 15	Offshore	Subtidal sands and gravels	FOCI Habitat	Maintain	Maintain	3	0	0	3	0	0.00
Net Gain	Swallow Sand	NG 16	Offshore	Subtidal coarse sediment	BSH A5.1	Maintain	Yes						
Net Gain	Swallow Sand	NG 16	Offshore	Subtidal sand	BSH A5.2	Maintain	No						
Net Gain	Swallow Sand	NG 16	Offshore	Subtidal sands and gravels (modelled)	FOCI Habitat	Maintain	No	4	0	0	4	2	50.00
Net Gain	Swallow Sand	NG 16	Offshore	North Sea glacial tunnel valleys (Swallow hole)	Geological feature	Maintain	Yes						
Net Gain	Fulmar	NG 17	Offshore	Subtidal sand	BSH A5.2	Maintain	Yes - caveat						
Net Gain	Fulmar	NG 17	Offshore	Subtidal sands and gravels (modelled)	FOCI Habitat	Maintain	Yes-pending	3	0	0	?	?	?
Net Gain	Fulmar	NG 17	Offshore	Ocean quahog <i>Arctica islandica</i>	FOCI species	Maintain	Yes - caveat						

Glossary

Accuracy: The degree to which a measured value (either spatial resolution/precision or attribute) conforms to a true or accepted value. Accuracy is a measure of correctness. It is distinguished from precision, which measures exactness. In a habitat mapping context, accuracy describes how closely a map predicts the actual habitat observed on the seabed at a given location (MESH 2007).

Activity: Human social or economic actions or endeavours that may have an effect on the marine environment, for example fishing or energy production.

Adequacy: To be considered adequate, the overall size of the MPA network, and the amount of each feature protected within it, must be large enough to ensure the delivery of ecological objectives, and the features' long-term protection and recovery.

Algae: Marine photosynthetic organisms, excluding angiosperms, which include red, brown and green macro-algae, commonly known as seaweeds, and microscopic algae known as phytoplankton.

Anthropogenic: Caused by humans or human activities; usually used in reference to environmental degradation (JNCC 2009a).

Appropriate authority: The appropriate authority is Welsh Ministers (for an area in Wales), Scottish Ministers (for an area in the Scottish offshore region) and in any other case the Secretary of State.

Area of Search: Used by JNCC and the other SNCBs to describe marine areas for which we have some evidence that they contain Natura 2000 features (habitats or species listed on the Habitats Directive or birds listed on the Birds Directive) and that we intend gather further evidence, usually through survey work, to decide whether to progress the site.

Attribute: A selected characteristic of a feature which is used to provide an indication of the condition of the feature to which it applies, for example, extent, diversity, typical species, species composition, range and distribution of characteristic communities, topography and sediment character.

Benthic: A description for animals, plants and habitats associated with the seabed. All plants and animals that live in, on or near the seabed are benthos (for example sponges, crabs and seagrass beds) (Defra 2007).

Best available evidence: This is one of the Defra MPA network design principles and is described as 'Network design should be based on the best information currently available. Lack of full scientific certainty should not be a reason for postponing proportionate decisions on site selection.' (Defra 2010b).

Biodiversity: The variety of life forms, including plants, animals and micro-organisms, the genes that they contain, and the biotopes and ecosystems that they form (Finding Sanctuary 2009).

Biogenic reef: Any structure that has been formed from living material. It is normally used to describe living structures such as those created by the cold-water coral *Lophelia pertusa*, colonial worms such as *Sabellaria* spp and molluscs, including the horse mussel *Modiolus modiolus* (Anon 2001).

Biogeographic region: An area of animal and plant distribution having similar or shared characteristics throughout (IUCN-WCPA 2008).

Biogeography: Biogeography is the study of geographical distributions of species and habitats, and the environmental or historical factors that produce such distributions.

Biological diversity: Includes diversity of species and their relative abundance.

Biotope: The physical habitat with its associated, distinctive biological communities. A biotope is the smallest unit of a habitat that can be delineated conveniently and is characterised by the community of plants and animals living there (for example, deep sea, *Lophelia pertusa* reef) (Anon 2001). Usually, several biotopes will constitute an ecosystem.

Circalittoral: The subtidal zone characterised by animal-dominated communities. The depth at which the circalittoral zone begins is directly dependent on how much light reaches the seabed.

Co-location: Where multiple users or activities share the same space, for example offshore wind farms may be co-located with MCZs.

Community: A group of animals, and/or plants, living within a defined area or zone and functioning together as the living part of an ecosystem.

Community structure: Certain measures used to describe ecological and biological characteristics of species within a community, for example age classes, sex ratios, distribution of species, abundance, biomass, reproductive capacity, recruitment, range and mobility.

Confidence (of a habitat map): A statement about how reliable a map user thinks the map is given its purpose. This is not a mathematical definition like accuracy or uncertainty, but is a judgement made by the map-user and may therefore vary for any map. However, this judgment can be supported by evidence from:

- Accuracy measures
- Supporting maps show underlying evidence used to interpret map
- Evaluation of all contributing data
- Independent validation
- Expert opinion
- User support: Generally found to be acceptable by stakeholders and the map has stood the test of time (MESH 2007)

Connectivity: The extent to which populations in different parts of a species' range are linked by the exchange of eggs, larvae, spores or other propagules, juveniles or adults (Palumbi 2003).

Conservation objective: A statement of the nature conservation aspirations for the feature(s) of interest within a site and an assessment of those human pressures likely to affect the feature(s).

Convention on Biological Diversity (CBD): An international legally-binding treaty with three main goals: conservation of biodiversity; sustainable use of biodiversity; and fair and equitable sharing of the benefits arising from the use of genetic resources. Its overall objective is to encourage actions which will lead to a sustainable future.

Deep sea: The seabed generally below 200m depth (in the context of the EUNIS habitat classification system).

Defra: The UK government department responsible for the environment, for food and farming, and for rural matters.

Defra area MPA network: The Defra area MPA network will comprise existing MPAs including European marine sites (SACs and SPAs) and the marine components of SSSIs and Ramsar sites plus MCZs designated under the Marine and Coastal Access Act 2009. The Defra area MPA network will extend across the territorial waters of England and UK offshore waters adjacent to England and Wales and will contribute to the UK MPA network in these areas.

Defra marine area: This is defined as English inshore waters and the offshore waters of England, Wales and Northern Ireland.

Demersal: Species that live on, or in close proximity to, the seabed, for example flat fish. The term also applies to fishing gear that is used on the seabed (for example trawling) (Anon 2001).

Density: The number of living individuals within a given area.

EC Birds Directive: The Council Directive 79/409/EEC on the conservation of wild birds (PDF 209KB) (the 'Birds Directive') provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. Through this Directive, the European Community meets its obligations for bird species under the Bern Convention and Bonn Convention.

EC Habitats Directive: The EC Habitats Directive (**Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora**) aims to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species at a Favourable Conservation Status, introducing robust protection for those habitats and species of European importance.

(Areas of) ecological importance: Areas that are important for particular life stages or behaviours of species, areas of high productivity and areas of high biodiversity.

Ecology: The study of the interrelationships between living and non-living components of the environment (Anon 2001).

Ecosystem: A set of living things inhabiting a given space, the interactions between the different species, and the interactions between the species and their physical environment. It is defined at a much broader scale than the term biotope, that is, an ecosystem would commonly contain many biotopes. A functioning ecosystem is based on a balance of interactions, such as food webs. Every component of an ecosystem (living things, physical environments, biotopes) has a particular role or function, meaning that its loss or disruption can have knock-on effects that reverberate around the whole ecosystem (Finding Sanctuary 2009).

Ecosystem approach: A decision making framework for looking at whole ecosystems and valuing the ecosystem services they provide, to ensure that we can maintain a healthy and resilient natural environment now and for future generations.

Ecosystem goods and services: Indirect or direct benefits to human society that derive from marine ecosystems. Examples would include food provision, recreation, nutrient cycling, gas and climate regulation (Defra 2007).

Environment: The physical surroundings and climatic conditions that influence the behaviour, growth, abundance and overall health of a population or species (Anon 2001).

EUNIS: A European habitat classification system developed by the European Topic Centre on Biological Diversity, covering all types of habitats from natural to artificial, terrestrial to freshwater and marine.

Exposure: The level that an interest feature or the habitat that supports it is open to a distressing influence resulting from the possible/likely effects of operations arising from human activities currently occurring on the site. The assessment of exposure can include the spatial extent, frequency, duration and intensity of the pressure(s) associated with the activities, where this information is available.

Extent: The area covered by a habitat or community. **European marine site:** The marine areas of both Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

Favourable condition: The state of MCZ features (habitats, species, geological and geomorphological) within a site when all requirements to meet site-specific conservation objectives have been achieved.

For MCZ habitat FOCI and broad-scale habitats favourable condition occurs when, **within the site:**

- i. Its extent/area is stable or increasing; and
- ii. The specific structure and functions, such as ecological and physico-chemical structure and functions, which are necessary for its long-term maintenance exist; and
- iii. Biological diversity of its characteristic communities is maintained such that the quality and occurrence of habitats and the composition and abundance of species are in line with prevailing physiographic, geographic and climatic conditions⁸⁹.

For MCZ species features favourable condition occurs when, **within the site:**

- i. Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its habitat; and
- ii. There is sufficient habitat to maintain its population on a long-term basis.

For geological and geomorphological features favourable condition occurs when, **within the site:**

- i. The extent, component elements and integrity of geological and geomorphological features are maintained or able to evolve within the parameters of natural change; and
- ii. The structure, integrity and/or inherent functioning of these features are unimpaired and remain unobscured other than through natural processes⁹⁰.
 - In applying the term favourable condition to MCZ features, Natural England and JNCC are developing draft attributes specific to MCZ features which represent the generic elements above. It is Natural England and JNCC's goal to eventually develop targets for each feature's attributes, against which favourable condition will be assessed. These targets will be closely linked to the targets for Good Environmental Status being developed for Marine Strategy Framework Directive implementation.
 - The adoption of the term favourable condition, which is being used for other sites in the MPA network, will encourage consistency in the use of terminology for conservation objectives

⁸⁹ This definition is aligned with the Marine Strategy Framework Directive's biodiversity descriptor.

⁹⁰ In the marine environment, recovery generally refers to natural recovery through the removal of unsustainable physical, chemical and biological pressures, rather than direct intervention (as is possible with terrestrial features).

and facilitate the implementation of a common approach across the MPA network. Achieving and sustaining favourable condition of MPA features will ensure their appropriate contribution to the progress towards the achievement of Good Environmental Status by 2020 (under the EU Marine Strategy Framework Directive), and of Favourable Conservation Status (under the EU Habitats Directive).

Favourable Conservation Status: This is defined in Article 1 of the Habitats Directive for habitats listed in Annex I and species listed in Annex II of the Directive. It is applied not applied within an individual Special Area of Conservation but across the full range of the feature.

The conservation status of natural habitats will be taken as 'favourable' when:

- i. its natural range and areas it covers within that range are stable or increasing, and
- ii. the species structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- iii. the conservation status of its typical species is favourable as defined in Article 1(i).

The conservation status of species will be taken as 'favourable' when:

- i. population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- ii. the natural range of the species is neither being reduced for the foreseeable future, and
- iii. there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Feature: A species, habitat, geological or geomorphological entity for which an MPA is identified and managed.

Feature of conservation importance (FOCI): A habitat or species that is rare, threatened or declining in our waters.

Feature of geological / geomorphological interest: Geological and geomorphological features of interest may include areas of international geological importance, areas containing exceptional geological features, or areas that represent a geological or geomorphological feature or process.

Front: A boundary or transition zone between two water masses of different properties.

Gap analysis table: The MCZ Project gap analysis table lists all broad-scale habitats and FOCI that are afforded protection through a conservation objective within existing MPAs (for more information see (Natural England & JNCC 2012h)).

Geographic Information System (GIS): A system of hardware, software, and procedures designed to support the capture, management, manipulation, analysis, modelling, and display of spatially referenced data for solving complex planning and management problems (NOAA 2009).

Good Environmental Status: The protection of the marine environment, preventing its deterioration and restoring it where practical, while using marine resources sustainably. There are 11 high-level Descriptors of Good Environmental Status which cover all the key aspects of the marine ecosystem and all the main human pressures on them (edited from <http://www.defra.gov.uk/environment/marine/msfd/>).

Ground-truthing: Direct observations and samples of the seabed provide information that can be used to interpret remotely sensed images; the observations are the 'truth' with regard to the habitats actually present on the seabed. Observations used in this way provide ground truth data. The process of using

ground truth data for interpretation is often termed ground truthing. During this process the relationship between properties of the remote images at the observation/sample sites (in the form of points, irregular digitised areas or buffer areas around points) is determined. These relationships are then applied to the whole image to predict the distribution of habitat types (MESH 2007).

Habitat: The place where an organism lives, as characterised by the physical features. For example rocky reefs, sandbanks and mud holes all provide particular habitats that are occupied by animals or algae adapted to live in or on one of them but that probably cannot thrive, or even survive, in others (Anon 2001).

Habitat extent: The area of the habitat being used by the feature species.

Habitat of conservation importance (habitat FOCI): A habitat that is rare, threatened or declining in our waters.

Heuristics: 'Rules of thumb' derived from scientific knowledge and understanding.

Home range: The geographic area in which an animal normally ranges.

Impact: The effects (or consequences) of a pressure on a component where a change occurs that is different to that expected under natural conditions, for example benthic invertebrate mortality.

Impact: The consequence of pressures (for example habitat degradation) where a change occurs that is different to that expected under natural conditions (Robinson, Rogers and Frid 2008).

Impact Assessment: An Impact Assessment reports on the anticipated environmental, economic and social costs, benefits and impacts of a proposed policy or range of policies. These impacts are assessed against a baseline scenario in which the proposed policy interventions do not take place. It is a process for analysing and selecting policy options and a tool for communicating how preferred options have been chosen.

Infralittoral zone: The shallowest subtidal zone (closest to the shore) characterised by plant-dominated communities.

Intertidal: The foreshore or area of seabed between high water mark and low water mark which is exposed each day as the tide rises and falls. Also called the littoral zone (Anon 2001).

Intolerance: The susceptibility of a habitat, community or species to damage, or death, from an external factor.

Invasive alien species (IAS): A subset of established non-native species which have spread, are spreading or have demonstrated their potential to spread elsewhere, and have an adverse effect on biological diversity, ecosystem functioning, socio-economic values and/or human health in invaded regions (Task Group 2 on Non-indigenous Species 2010).

Joint Nature Conservation Committee (JNCC): The statutory adviser to Government on UK and international nature conservation. Its specific remit in the marine environment ranges from 12–200 nautical miles. JNCC delivers the UK and international responsibilities of the four country nature conservation agencies of the devolved regions, including Natural England.

Juvenile: An immature organism, that is, one that has not reached sexual maturity (Anon 2001).

Larva: The developing animal after it has hatched from its egg but before it has reached the juvenile or adult stage. Many marine larvae drift in the plankton (Anon 2001).

Littoral: The edge of the sea, but particularly the intertidal zone (Anon 2001).

Maerl: Twig-like, calcified red algae that act as keystone species and form a particular habitat (Anon 2001).

Management Measures: Management measures are ways to manage activities in a Marine Protected Area in order to maintain or improve the condition of its features. Specific measures may include legislative measures, financial, administrative (for example permits), practical and planning measures, physical modifications (such as buoys and signs), voluntary codes of practice, and education.

Mapping European Seabed Habitats project (MESH): The MESH Project ran between 2004 and 2008 and was made up of a consortium of twelve partners from five European countries led by the JNCC, with financial support from the EC's INTERREG IIB NWE Programme. The MESH partnership drew together scientific and technical habitat-mapping skills, expertise in data collation and its management, and proven practical experience in the use of seabed-habitat maps for environmental management within national regulatory frameworks.

Marine Aggregates Levy Sustainability Fund (MALSF): From 2002 to 2011 the Government imposed a levy on all primary aggregates production (including marine aggregates) to reflect the environmental costs of winning these materials. A proportion of the revenue generated was used to provide a source of funding for research aimed at minimising the effects of aggregate production. This fund, delivered through Defra, was known as the Aggregate Levy Sustainability Fund (ALSF). The Marine ALSF supported a wide range of projects exploring ecology, geology and heritage of the seabed around the UK. These included the Regional Environmental Characterisation surveys described below.

Marine Conservation Zone (MCZ): A type of MPA to be designated under the Marine and Coastal Access Act. MCZs will protect nationally important marine wildlife, habitats, geology and geomorphology and can be designated anywhere in English and Welsh inshore and UK offshore waters.

Marine Conservation Zone (MCZ) Project: A project established by Defra, Natural England and the Joint Nature Conservation Committee to identify and recommend MCZs to Government. The MCZ Project was delivered through four regional MCZ projects covering the South-West, Irish Sea, North Sea and Eastern Channel and worked with sea-users and interest groups to identify MCZs.

Marine Protected Area (MPA): A generic term to cover all marine areas that are a *clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values* (Dudley 2008). MPAs may vary in their objectives, design, management approach or name (for example marine reserve, sanctuary, marine park) (IUCN-WCPA 2008). See also 'Protected Area' and 'OSPAR MPA'.

Marine Protected Area (MPA) network: A system of individual MPAs operating cooperatively and synergistically, at various spatial scales, and with a range of protection levels, in order to fulfil ecological aims more effectively and comprehensively than individual sites could acting alone. The system will also display social and economic benefits, though the latter may only become fully developed over long time frames as ecosystems recover (IUCN-WCPA 2008).

Marine Strategy Framework Directive (MSFD): Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy. The Directive aims at achieving or maintaining Good Environmental Status by 2020 at the latest. It is the first legislative instrument in relation to marine biodiversity policy in the European Union, and it outlines a transparent, legislative framework for an ecosystem-based approach to the management of human activities which supports the sustainable use of marine goods and services (edited from <http://www.defra.gov.uk/environment/marine/msfd/>).

Marine Environmental Data and Information Network (MEDIN): This network promotes sharing of, and improved access to, marine environmental data. It is an open partnership and its partners represent government departments, research institutions and private companies (<http://www.oceannet.org/>).

Metadata: Information about the identification, the extent, the quality, the spatial and temporal schema, spatial reference, and distribution of digital geographic data.

Monitoring: The regular and systematic collection of environmental and biological data by agreed methods and to agreed standards. Monitoring provides information on current status, trends and compliance with respect to declared standards and objectives (Anon 2001).

Named consultative stakeholder (NCS): The MCZ Project developed an additional mechanism to engage national and international stakeholders who may not have the resources to engage in the regional stakeholder groups. This was through becoming a Named Consultative Stakeholder. Becoming a NCS allowed stakeholders to provide comment on the MCZ iterations produced by the regional stakeholder groups.

National Biodiversity Network (NBN): The NBN is a collaborative project or partnership which involves many of the UK's wildlife conservation organisations, the government and country agencies, environmental agencies, local records centres and also many voluntary groups. Its aim is 'Making all biological records freely and easily available to everyone'. Data are made available through the NBN Gateway that acts as a "data warehouse" for biodiversity information, which can be quickly and easily accessed to understand the distribution of particular species in the UK. Individual records, covering plants, mammals, birds and invertebrates, are stored on the NBN Gateway and these can then be displayed on a map of the UK in a number of different ways (National Biodiversity Network 2011).

Natura 2000: The EU network of nature protection areas (classified as SPAs and SACs) established under the 1992 EC Habitats Directive.

Natural England: The statutory adviser to Government established to conserve and enhance the natural environment, for its intrinsic value, the wellbeing and enjoyment of people and the economic prosperity that it brings. Natural England has a statutory remit for England out to 12 nautical miles offshore.

Natural environmental processes: Biological and physical processes that occur naturally in the environment for example water circulation, sediment deposition and erosion etc. should not deviate from baseline at designation or from reference conditions.

Natural environmental quality: Variables that can be used to measure the quality of the natural environment for example chemical quality parameters of water, suspended sediment levels, radionuclide levels etc. should not deviate from baseline at designation (if available) or reference condition.

Natural range: The biogeographical range over which the feature species naturally occurs.

Network: Collection of individual MPAs or reserves operating cooperatively and synergistically, at various spatial scales and with a range of protection levels that are designed to meet objectives that a single reserve cannot achieve (IUCN-WCPA 2008).

Non-native species: A species that has been introduced directly or indirectly by human agency (deliberately or otherwise) to an area where it has not occurred in historical times and which is separate from and lies outside the area where natural range extension could be expected (Eno, NC; Clark, RA; Sanderson, WG; (eds) 1997) .

Nursery area: An area readily identified as one of particular importance, year-on-year, for juvenile fish (Anon 2001).

OSPAR: The Convention for the Protection of the Marine Environment of the North-East Atlantic (<http://www.ospar.org>).

OSPAR MPA: An area within the OSPAR maritime area for which protective, conservation, restorative or precautionary measures, consistent with international law, have been instituted for the purpose of protecting and conserving species, habitats, ecosystems or ecological processes of the marine environment (OSPAR 2003).

Parent feature: The EUNIS Level 2 habitat to which the broad-scale habitat belongs (for example the broad-scale habitat 'High energy circalittoral rock' belongs to the EUNIS Level 2 habitat 'Circalittoral rock' (Natural England & JNCC 2012e).

Pelagic: Living in the water column (Finding Sanctuary 2009).

Plankton: Organisms that float in midwater and drift to and fro with the tides and currents.

Population structure: The age/size distribution and sex ratio of species within a population.

Precision: In habitat mapping, there is confusion between this term and accuracy. Precision can be defined as the variability between repeated measurements but this has limited application to habitat mapping. However, in habitat mapping its more general usage is to define the likely error of a boundary (e.g. ± 100 m, ± 10 m). It could also be applied to the level in a hierarchy that a record has been assigned to (i.e. a Eunis level 4 class is less precise than a level 5 class) (MESH 2007).

Presence (of feature): Refers to a species, habitat, geological or geomorphological entity being located within a site.

Pressure: The mechanism through which an activity has an effect on any part of the ecosystem (for example physical abrasion caused by trawling). Pressures can be physical, chemical or biological and the same pressure can be caused by a number of different activities (Robinson, Rogers and Frid 2008). The nature of the pressure is determined by activity type, intensity and distribution.

Primary production: The organic matter produced by organisms at the bottom of the food chain (mostly from photosynthetic organisms including plants and algae), which fuels the rest of the food chain.

Productivity: The total biomass generated by a population, stock or species each year as a result of growth and reproduction – less the quantity lost through mortality (Anon 2001).

Protected Area: A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (Dudley 2008).

Public Authority: A Minister of the Crown, a public body or a public office holder. The meaning of "public body" and "public office holder" are given in section 322(1) of the Marine and Coastal Access Act 2009 for example, the Marine Management Organisation (MMO), Inshore Fisheries and Conservation Authorities (IFCAs) and harbour authorities.

Ramsar: Sites designated under the Convention for Wetlands of International Importance, signed in Ramsar, Iran in 1971. <http://www.ramsar.org>

Rarity: A rare feature that is restricted to a limited number of locations or to small, few and scattered locations in UK waters.

Recoverability: Ability of a habitat, community or species to return to a state close to that which existed before the activity or event caused change.

Recovery: The absence of pressures to which the feature is sensitive, combined with evidence of ongoing improvement of the condition of the feature until a favourable stable state has been reached.

Reference area: Sites or parts of sites where all extraction, deposition or human-derived disturbance and damage is removed or prevented.

Reference condition: The definition used by the regional MCZ projects was that in the ENG (Natural England and the Joint Nature Conservation Committee 2010): 'The state where there are no, or only very minor, changes to the values of the hydromorphological, physico-chemical, and biological quality elements which would be found in the absence of anthropogenic disturbance'. However please note that the working definition that OSPAR groups are using to describe reference condition under the MSFD is 'The value or range of values of state at which impacts from anthropogenic pressures are absent or negligible. Values used to define the reference state should be directly linked to the GES criteria used for assessment. They will vary in relation to prevailing physiographic and geographic conditions and may vary over time in relation to changing climatic conditions' (OSPAR 2012).

Regional Environmental Characterisation (REC) surveys: The Marine ALSF commissioned a series of regional surveys to develop understanding of Britain's submerged habitats and heritage. The aim of the Regional Environmental Characterisation (REC) surveys was to acquire data, of the highest quality and detail possible; to enable broadscale characterisation of the seabed habitats, their biological communities and potential historic environment assets within the regions. The Regional Environmental Characterisations (RECs) were conducted in the South Coast, Outer Thames, East Coast and Humber (Cefas 2012).

Regional MCZ project: Any one of the four projects that have been set up to deliver the MCZ Project (covering English inshore and English, Welsh and Northern Irish offshore waters), namely Finding Sanctuary (south-west), Irish Sea Conservation Zones (Irish Sea), Net Gain (North Sea) and Balanced Seas (south-east).

Regional MCZ project area: The area of sea covered by the four regional MCZ projects.

Regional MCZ project team: All those involved in the day-to-day running of any one of the four regional MCZ projects.

Regional Profile: Each regional MCZ project team produced a Regional Profile to provide an overview of the data available for that project area which supported decision making. The Regional Profile included for example, distribution maps for features of conservation importance and information about existing MPAs.

Regional stakeholder group: A group of sea-users, regulators and interest groups that will decide upon the MCZ recommendations of the regional MCZ projects. (Note. Finding Sanctuary calls its regional stakeholder group the 'Steering Group'; Net Gain calls its regional stakeholder group the 'Stakeholder Advisory Panel').

Representativity: The concept of protecting the full range of marine biodiversity within an MPA network by including examples of all habitats (and therefore the species associated with them) across their full geographic and ecological range.

Resilience: The ability of an ecosystem to maintain key functions and processes in the face of stresses or pressures by either resisting or adapting to change (IUCN-WCPA 2008).

Risk: The concept of the current level of possible loss, damage or deterioration of an interest feature, habitat and a site caused by an anthropogenic activity.

Risk Assessment: A judgement and statement on the expected loss, damage or deterioration of an interest feature, habitat or site caused by anthropogenic activity.

Science Advisory Panel (SAP): The SAP was employed to provide the scientific knowledge, advice and judgement necessary to assist the regional MCZ projects in identifying MCZs and the Secretary of State in designating these sites as a contribution to an ecologically coherent network. Members and the chair of the SAP were appointed by Defra.

Sensitivity: A measure of tolerance (or intolerance) of a species or habitat to damage from an external factor and the time taken for its subsequent recovery. See <http://www.marlin.ac.uk/sensitivityrationale.php> for further information.

Sensitivity pressure benchmarks: A series of benchmark levels of intensity for each pressure, where intensity reflects the magnitude, extent and duration of each pressure, were established by ABPmer and MarLIN under the MB102 sensitivity matrix contract (Tillin, Hull and Tyler-Walters 2010). The benchmarks were designed to provide a 'standard' level of impact against which to assess resistance. Where practicable three benchmarks were developed for each pressure, where the benchmarks describe the breakpoints between high/medium and medium/low pressure level, and the mid-point between these two benchmarks (defined as medium pressure). This medium pressure was used for assessing the sensitivity score within the overall sensitivity matrix. The pressure benchmarks were further refined following review during two two-day workshops with research experts (workshop 1) and industry representatives (workshop 2).

Sessile: An organism that does not move, but stays attached to one place on the sea floor, such as a mussel, sea fan or seaweed.

Shifting baselines: Refers to the fact that people measure ocean health against the best that they have experienced in their own lifetimes (even if those measures fall far short of historical ones) which causes a lowering of standards from one generation to the next. One generation sets a baseline for what is 'healthy' and 'natural' based on its own experience. Successive generations see even more degraded ecosystems as 'healthy,' and therefore set their standards for ecosystem health even lower (Pauly 1995 cited in IUCN-WCPA 2008).

Site of Special Scientific Interest (SSSI): Sites designated under the Wildlife and Countryside Act 1981 (as amended 1985, and superseded by the Countryside and Rights of Way Act 2000, and the Nature Conservation (Scotland) Act (2004)).

Source-sink population dynamics: Refers to changes in populations due to movements of individuals between source and sink. In this context a source is a habitat patch where space is limited and individuals (adults, young or larvae) spill out into surrounding areas, while a sink area has available space to accept individuals but produces few of its own (Crowder, et al. 2000).

Spawning aggregation: A collection of individuals which converge to mate; this collection is unusually concentrated and, thus, highly vulnerable to fishing effort (NOAA 2006).

Special Area of Conservation (SAC): A protected site designated under the European Habitats Directive for species and habitats of European importance, as listed in Annex I and II of the Directive.

Special Protection Area (SPA): A protected site designated under the EC Birds Directive, for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

Species of conservation importance (species FOCI): Habitats and species that are rare, threatened or declining in our waters.

Stakeholders: Individuals (including members of the public), groups of individuals, organisations, or political entities interested in and/or affected by the outcome of management decisions. Stakeholders may

also be individuals, groups, or other entities that are likely to have an effect on the outcome of management decisions.

Statutory Nature Conservation Body (SNCB): A collective term for the Countryside Council for Wales, the Joint Nature Conservation Committee, Natural England, Northern Ireland's Council for Nature Conservation and the Countryside (which generally works through the Northern Ireland Environment Agency) and Scottish Natural Heritage.

Substrate/Substratum: The surface or medium on which an organism grows or is attached (for example seabed sediment).

Subtidal: Depths greater than the intertidal zone (Anon 2001).

Surrogate feature: A feature that functions as an ecological substitute for another feature.

UK Biodiversity Action Plan (UK BAP): The UK BAP was the Government's response to the Convention on Biological Diversity (CBD) signed in 1992. The UK BAP included a number of specific plans for species and habitats afforded priority conservation action. More recently devolution has meant that country level strategies have been produced. For example the England Biodiversity Strategy (Defra 2011c)

UK MPA network: The UK MPA network will comprise existing MPAs including European marine sites (SACs and SPAs) and the marine components of SSSIs and Ramsar sites; and new national MPAs, which the UK Government and Devolved Administrations have introduced through the Marine Acts. The UK MPA network will extend across UK territorial waters and UK offshore waters.

Uncertainty: The degree to which the measured value of some quantity is estimated to vary from the true value. Uncertainty can arise from a variety of sources, including limitations on the precision or accuracy of a measuring instrument or system; measurement error; the integration of data that uses different scales or that describe phenomena differently; conflicting representations of the same phenomena; the variable, unquantifiable, or indefinite nature of the phenomena being measured; or the limits of human knowledge. Uncertainty is the opposite of confidence (MESH 2007).

Unfavourable condition: The state of the feature is currently unsatisfactory and management may be required to enable favourable condition to be achieved.

Vessel Monitoring System (VMS): This is a form of satellite tracking using transmitters. It is a legal requirement to have VMS on EU fishing vessels over 15 metres in overall length.

Viability: The ability of an MPA to maintain the integrity of the features (that is, population of the species or condition and extent of the habitat), for which it is designated, and to ensure individual sites are self-sustaining throughout natural cycles of variation.

Vulnerability: A measure of the degree of exposure of a receptor to a pressure to which it is sensitive.

Wildlife and Countryside Act 1981: A UK Act which consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain.

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Natural England

0845 600 3078

enquiries@naturalengland.org.uk

www.naturalengland.org.uk



Joint Nature Conservation Committee

01733 866833

MCZProject@jncc.gov.uk

www.jncc.defra.gov.uk