Final Report and Recommendations

September 7th, 2011

Download Section 3 of 7

Parts II.3.1 to II.3.13 (offshore rMCZ site reports): pages 193 -362 of 1272

This is one of seven download sections of Finding Sanctuary's final report, which was initially only made available to download as a single document. Because of the large size of the final report, we have made it available in this format for users who have had difficulty downloading it in one go or printing off individual pages from the large PDF.

Where possible, readers are advised to download the single document in preference to the separate download sections. Although the content is identical, the hyperlinks in the report's main Table of Contents and List of Maps are severed when the PDF is split.

II.3 Site reports for recommended MCZs

II.3.1 The Canyons rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	Long	Lat	Long
48.3333	-9.6799	48° 20' 0''N	9° 40' 47'' W

***Site surface area*:** 660.58 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: On the boundary between Western Channel and Celtic Sea, and Atlantic South West Approaches
OSPAR region: Region III: Celtic Waters

Site boundary: The shape of the site is a simple rectangle, in line with ENG guidelines. The northern, north-western and southern boundary sections align with the UK Continental Shelf Limit. The western and eastern boundary sections were drawn as straight N-S lines. The site was placed on the top edge of the shelf break, and it includes small slivers of continental shelf broad-scale habitats along the eastern boundary, in addition to the deep sea broad-scale habitat beyond the shelf break. This positioning was deliberate, in order to capture as much of the depth range along the steep shelf slopes as possible, thereby maximising the biodiversity within the site.

Sites to which the site is related: The Canyons rMCZ contains a recommended reference area called 'The Canyons'. The shortest distances to its two nearest neighbouring rMCZs are approximately 30km to South-West Deeps (East), and around 40km to South-West Deeps (West), respectively.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM29N).

Features proposed for designation within The Canyons rMCZ

Table II.3.1.a Draft conservation objectives for the Canyons rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Deep-sea bed	recover
Subtidal coarse sediment[1]	recover
Subtidal sand[1]	recover
Cold-water coral reefs	recover

[1]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.

The inclusion of conservation objectives for seabirds and common dolphins on the conservation objective feature list for this site was discussed at length at the Joint Working Group meeting in May 2011, in the full understanding of SAP feedback following progress report 3, and the JNCC's position that they would not support conservation objectives for mobile species in offshore rMCZs. The JWG could not reach a conclusion on the matter.

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.1b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Subtidal coarse sediment	0.12	<0.1%	1, 2
Subtidal sand	3.95	<0.1%	1
Deep-sea bed	655.54	41.1%	1, 2

Table II.3.1c Habitats mapped by JNCC from seafloor survey data (Davies et al. *2008), represented within this rMCZ.*

Subtidal broad-scale habitats (EUNIS level 3)		
Habitat	**Area covered within rMCZ (km^2)**	**% of total in study area**
Communities of Deep-Sea Corals	0.17	100
Deep Circalittoral Coarse Sediment	5.22	7.4
Deep-Sea Bedrock	27.93	65.6
Deep-Sea Biogenic Gravel	57.08	92.3
Deep-Sea Mixed Substrata	160.37	54.8
Deep-Sea Mud	114.46	81.9
Deep-Sea Sand	15.24	61.3

Table II.3.1d ***FOCI habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Cold-water coral reefs		1		2
Subtidal sands and gravels[1]	12.24			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

This site is located in the far south-west corner of our study region and of the UK's continental shelf area. It is more than 330 km from Land's End. The area is unique within the context of England's extensive, but largely shallow shelf seas. It is located on the continental shelf break, which drops steeply from the continental shelf to the oceanic abyss. The depth within the site ranges from 200m at the eastern edge of the site, to 2000m in the west. Within the site, there are two large canyons that indent the shelf break, further adding to the topographic complexity of the seafloor.

The site boundaries were drawn for the site to be located on the steep part of the shelf break, to cover areas of diverse seafloor habitat within the 'deep sea' broad-scale habitat, including canyons and deep sea corals, mapped from survey data supplied by the JNCC (collected during the research cruise described in Davies *et al.,* 2008). This is high-quality seafloor habitat data, which has been used in addition to our EUNIS level 3 habitat data (described in appendix 8), and it is shown on one of the maps at the end of this site report (map FR_009c). It shows a range of seafloor habitats present, including bedrock and a range of sediments varying from mud to coarse sediments.

There is a small patch of live deep-water coral reef (*Lophelia pertusa* reef), located on the northern flank of the northernmost canyon in the site. This is the only living deep-water coral reef recorded within England's seas (other deep-water coral reefs occur along the continental shelf break off Scotland and Ireland). There are more extensive patches of biogenic rubble present in the site, on the shallower spurs separating the deep canyons. This is an indication that the coral reef habitat may have been much more extensive in the past.

The site also covers an area of additional ecological importance in terms of its pelagic environment. There is upwelling of deep, nutrient-rich waters along the shelf break, as is indicated by persistent sea surface temperature fronts located along the sea surface above the shelf break (see the biophysical interactive PDF presented along with this report). The area attracts higher than average numbers of seabirds and cetaceans.

Detailed site description

Detailed multibeam and backscatter survey work was carried out in the area of the south-west Canyons in 2007, which focused on the canyons flanks, or interfluves, was undertaken, along with a boomer and sparker survey by Davies *et al*. (2008). Ground-truthing was undertaken using a drop frame equipped with high resolution digital stills and video. EUNIS habitats were classified from video analysis of the Canyons, including communities of deep-sea corals, i.e. patches of cold water coral (Davies *et al*. 2008). Habitats Directive Annex 1 bedrock reef and biogenic reef were all observed within the area of the study. Cold water coral (*Lophelia pertusa*) reef was observed at the seaward entrance to, and within Explorer Canyon between 743-925m (Davies *et al.* 2008).

Howell (2010a) collected biological data from the South West Canyons (SWC) over a thirteen day period in June 2007 on the RV 'Celtic Explorer'. Forty-five video transects were undertaken in total. Transects were selected to cover a range of substrates, depths and geomorphological features using existing multibeam bathymetry and backscatter data. Howell *et al*. (2010b) undertook an extensive review of the benthic faunal studies from the region.
During the period 2000–2006, Ellis *et al.* (2007a) carried out approximately 150 tows with 2m-beam trawl during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters.

The study described the spatial distribution of the epibenthic fauna. Wilson *et al.* 2001 analysed the benthic biodiversity of the Southern Irish Sea which may have included part of the Canyons.
Duineveld *et al*. (2001) compared the sediment and its community on the Celtic continental slope (Goban Spur) with those in a branch of the nearby Whittard Canyon in search for evidence of canyon mediated transport of (labile) organic matter. They studied the megabenthos and macrobenthos biomass and taxonomic composition. Macro-infauna were collected with a 50 cm diameter box-corer. Megafauna were collected using an Agassiz trawl with an opening of 1 m height and 3.5 m width and a net with a mesh size of 1 cm. Three stations were sampled during July 1996.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved. This assumption applies to all activities.** Table II.3.1e shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.1f shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.1e Specific assumptions and implications relating to The Canyons rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK (For this specific rMCZ, the implications for the non-UK fleet will be the most significant. This is relevant to longliners more than bottom-towed gear fishermen). o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots & static gear & cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.
Anchoring of large vessels will not be allowed (except in emergencies). Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings.	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings.	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.

	Given this assumption, there are still the following concerns: o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site	
Assumptions	**Implications**
Static fishing gear (except netting and longlining) will be permitted, but there may need to be a limit on the amount of static gear used in the area. This activity was discussed during the VA and it was determined that demersal static fishing gear (which impacts the seafloor, e.g. potting, set netting, set lines) should not be allowed where the most sensitive feature occurs: cold water coral reef (possibly to include biogenic rubble areas).	**Direct implications:** o No tow zones will be inundated with pots & static gear & cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs for mitigation measures, should they be necessary o There would be costs if monitoring is needed (e.g. the introduction of static gear controls would require monitoring)
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with

	cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore.
Anchoring of small vessels will be permitted. *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* In this site, anchoring would not be permitted where the sensitive habitat (coral reefs, biogenic rubble?) occurs, as the impact would theoretically not be compatible with the conservation objectives - but this activity is unlikely to happen in reality.	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel . 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted. In this site, anchoring would not be permitted where the sensitive habitat (coral reefs, biogenic rubble?) occurs, as the impact would theoretically not be compatible with the conservation objectives - but this activity is unlikely to happen in reality	**Direct implications:** o (No heritage wrecks currently present in the site)

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling.	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs for mitigation measures, should they be necessary o There would be costs if monitoring is needed **Benefits:** o
Pelagic trawls will be permitted Mobile species (seabirds and cetaceans) not considered as features needing protection when the vulnerability assessment was carried out with JNCC specialists.	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. In this site, any new cables would have to be routed around the most sensitive canyon seafloor habitat, (areas of live deep-sea coral and biogenic rubble, where coral may recover).	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc.

The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational). Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o Two inactive telecoms cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings.	**Direct implications:** o
Passage of ships will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings.	**Direct implications:** o
Acoustic survey work (geological surveys) will not be allowed. Military Sonar will not be allowed. This activity was discussed during the VA and it is likely that no added restrictions on acoustic work or military sonar would result from an MCZ designation in this site. (Cetaceans were not considered as a feature for protection in this site when the vulnerability assessment was carried out with JNCC experts.)	**Direct implications:** o

Table II.3.1f VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	Potential Management
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy
Commercial Fishing – all mobile and static bottom gears	Management: - Prohibition of fishing over specific BSH/FOCI. These are: cold-water coral reefs (possibly including biogenic rubble). Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site, others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
    - This site is important to almost twenty fishing vessels from South Normandy.
    - Seasonal closures of bottom-towed mobile gear are an inappropriate measure for benthic conservation.

- *Pelagic gear*
    - As this site had previously been considered to provide protection for pelagic and mobile species, assumptions had been made that netting and longlining would not be permitted, and pelagic trawls would be permitted, but with mitigation against bycatch for seabirds.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement in section II.2.1.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.
This area was one of the earliest that was drawn by stakeholder representatives as an area to include in the network (see first progress report), and there is a general recognition from a wide range of stakeholder representatives that the shelf break and coral reef habitat are unique ecological areas. Furthermore, the site is located a long way offshore, so the diversity of interests that might generate conflicts over the site designation is much more limited than closer to shore. Therefore, the site has relatively wide support.

The fishing sector have questioned the rationale for the selection of such a large proportion of the deep sea habitat feature within the region as a rMCZ, when the ENG does not set any quantitative guidelines, and some concern has been raised over possible impacts on non-UK fishermen (including Spanish longliners) who use the area of the shelf break. NCS comments from non-UK fishermen reflect these concerns.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data, MESH, MB102, and JNCC/MESH Canyons survey data (Davies *et al.* 2008). Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Stewart & Davies (2007).

Site map series

On the following pages there are three maps of this site.

- The first map (FR_009a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM29N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_009b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI.
- The third map (FR_009c) shows the detailed seabed habitat data from the JNCC/MESH survey referred to above (Davies *et al.* 2008). The data shown on maps FR_009b and FR_009c corresponds with the information in tables II.3.1b to II.3.1d, data sources are indicated in the tables.
- Most site reports include a map showing socio-economic information, but this one does not, because there is not a lot of spatial data indicating activities occurring this far offshore (except for fisheries data, which is included in interactive PDF maps provided along with this report – see appendix 14). One of the maps included in the South-west Deeps (East) rMCZ

site report (map FR_011c) shows a cable that clips the south-eastern corner of The Canyons rMCZ.

- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_009a

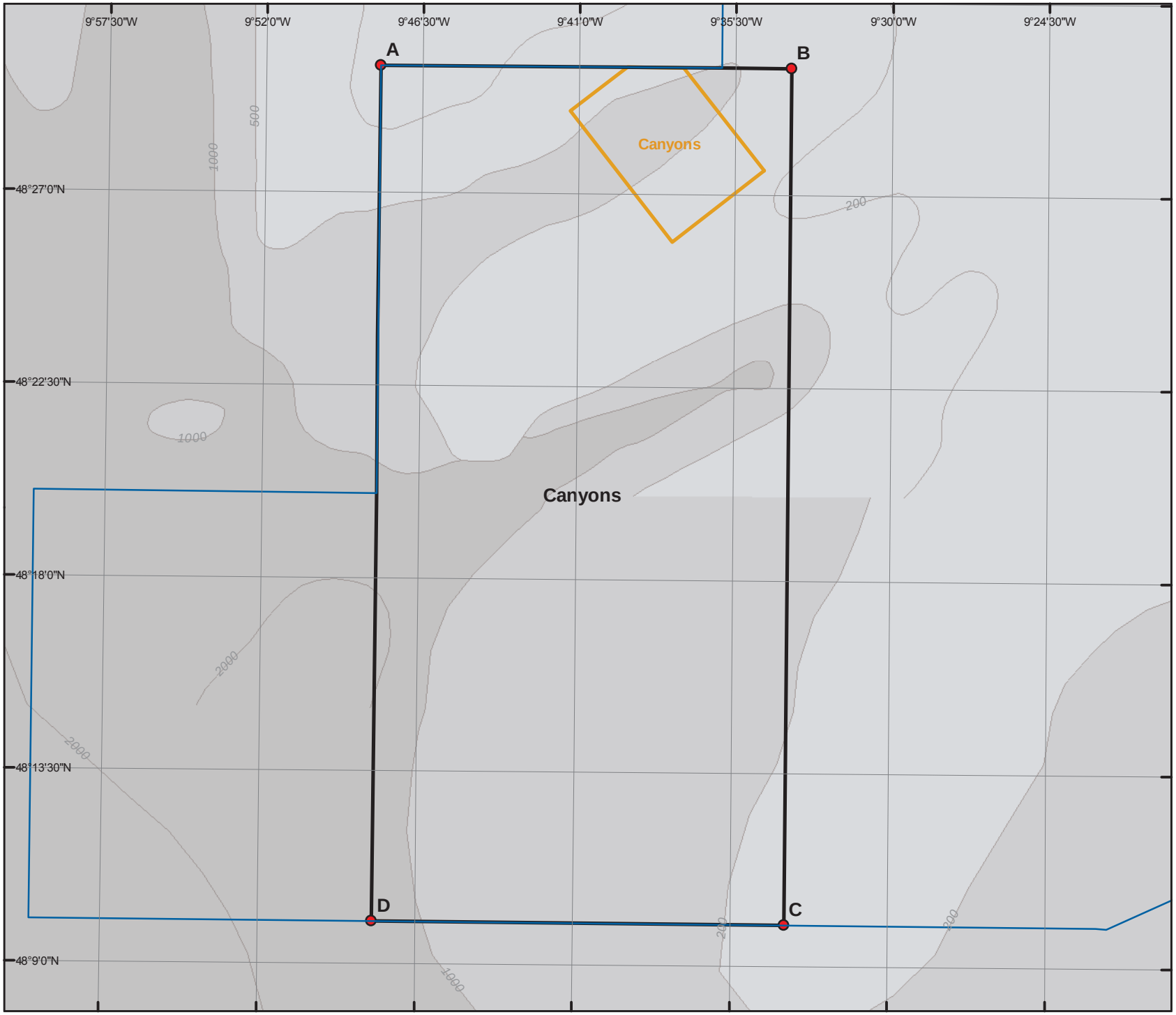
Version:25Aug11

The Canyons rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84; Projection: UTM29N.

0 5 10 km N

FINDING SANCTUARY



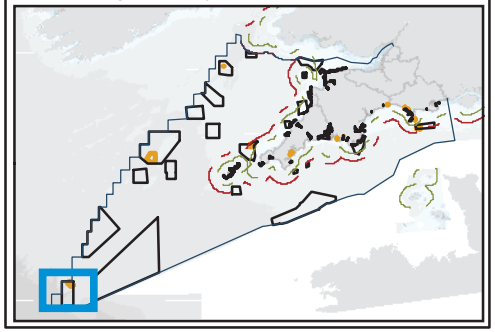
Lat/Long Co-ordinates (WGS84)

	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	48.5000	-9.8000	48° 29' 59" N	9° 47' 59" W
B	48.5000	-9.5593	48° 29' 59" N	9° 33' 33" W
C	48.1663	-9.5603	48° 9' 58" N	9° 33' 37" W
D	48.1667	-9.8001	48° 10' 0" N	9° 48' 0" W

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_009b

Version:31Aug11

The Canyons rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with broad-scale habitat information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 5 10 km

N

FINDING SANCTUARY

10°0'0"W 9°52'0"W 9°44'0"W 9°36'0"W 9°28'0"W 9°20'0"W

48°30'0"N

48°25'0"N

48°20'0"N

48°15'0"N

48°10'0"N

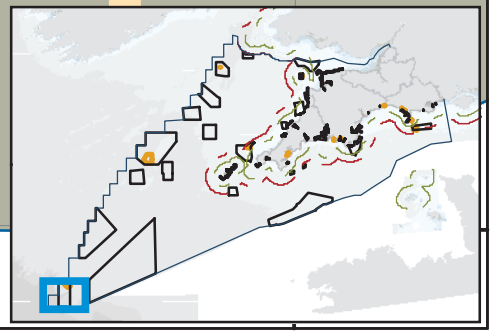
The Canyons

The Canyons

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



Map: FR_009c

Version:31Aug11

The Canyons rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with deep-sea biotope information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 5 10 km N

FINDING SANCTUARY

10°0'0"W 9°52'0"W 9°44'0"W 9°36'0"W 9°28'0"W 9°20'0"W

48°30'0"N 48°25'0"N 48°20'0"N 48°15'0"N 48°10'0"N

The Canyons

The Canyons

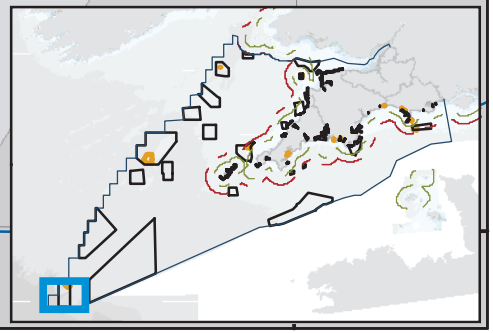
Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area

Deep-Sea Biotopes (JNCC/MESH survey data)

- Communities of Deep-Sea Corals
- Deep Circalittoral Coarse Sediment
- Deep-Sea Bedrock
- Deep-Sea Biogenic Gravel
- Deep-Sea Mixed Substrata
- Deep-Sea Mud
- Deep-Sea Sand

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



II.3.2 South-West Deeps (West) rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	Long	Lat	Long
49.1437	-9.0502	49° 8' 37'' N	9° 3' 0'' W

***Site surface area*:** 1824.3 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: The western boundary of this site follows the UK Continental Shelf Limit. The NE / SW orientation of the longest boundary section is in parallel with the main boundary section of the South-West Deeps (East) site, in order to allow mobile gear fishermen to continue using the 'corridor' in between the sites (fishing representatives have stated that mobile gear fishermen using this area predominantly tow their gear in along tracks that follow a NE/SW orientation). The remaining site boundaries were drawn using simple lines and minimum nodes, in line with ENG guidelines.

Sites to which the site is related: The South-west Deeps (West) rMCZ neighbours the South-west Deeps (East) rMCZ, The Canyons rMCZ and The Canyons recommended reference area.

The nearest neighbouring rMCZ is South-West Deeps (East), separated by a corridor approximately 27km in width. The Canyons rMCZ (and recommended reference area within it) is approximately 40km to the south-west of the southernmost boundary.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM29N).

Features proposed for designation within South-west Deeps (West) rMCZ

Table II.3.2a Draft conservation objectives for the South-west Deeps (west) rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15.***

Feature	Conservation Objective
Subtidal coarse sediment	recover
Subtidal sand	recover
Subtidal mixed sediments	recover
Celtic sea relict sandbanks	maintain

The inclusion of conservation objectives for seabirds on the conservation objective feature list for a zone within this site was discussed at length at the Joint Working Group meeting in May 2011, in the full understanding of SAP feedback following progress report 3, and the JNCC's position that they

would not support conservation objectives for mobile species in offshore rMCZs. The JWG could not reach a conclusion on the matter.

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

*Table II.3.2b **Subtidal broad-scale habitats** recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Subtidal coarse sediment	239.40	0.8%	1
Subtidal sand	1574.27	4.7%	1
Subtidal mixed sediments	6.99	0.2%	1

*Table II.3.2c **FOCI habitats** recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	1583.90			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

This rMCZ intersects with the geological/ geomorphological feature of importance, Celtic Sea relict sandbanks. The rMCZ boundary contains 10.2% (132.90 km^2) of the feature, as mapped in MB102 data layers.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The site comprises an area of continental shelf sea where the seafloor habitat is dominated by subtidal mixed sediment and subtidal sand. The eastern site boundary is approximately 230km SW of Land's End. The area is included in the network in order to meet ENG broad-scale habitat targets. The depth of the site is between 100 and 200m. The site is crossed by Celtic Sea Relict Sandbanks in a NE-SW direction (these sandbanks are listed as a geological/ geomorphological interest feature in the ENG). The area has also been highlighted by conservation representatives on the JWG as a foraging ground for seabirds during the summer.

Detailed site description

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

Wilson *et al.* (2001) sampled benthic biodiversity in the area but, but no exact location was specified. During the period 2000–2006, Ellis et al. (2007a) carried out approximately 150 tows with a 2m-beam trawl during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters. The study described the spatial distribution of the epibenthic fauna.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved. This assumption applies to all activities.** Table II.3.2d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.2e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.2d Specific assumptions and implications relating to South-West Deeps (West). Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Bottom-towed fishing gear will not be allowed (includes benthic trawling and hydraulic dredging) This activity was discussed during the VA meetings, and it was determined	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK (but loss further offshore would be less bad than loss of grounds inshore) o Loss of earnings for south-west / Newlyn beamers o Displacement of bottom-towed gear

that the activity would be prohibited in the whole site.	o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may ned to be a limit on the amount of static gear used in the area. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed.
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users.

	o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore. Aviation Danger Area likely to exclude wind development.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o
Pelagic longlining, pelagic netting and pelagic trawls will be allowed to continue (for static gear, see previous). Mobile species (seabirds and cetaceans) not considered as features needing protection when the vulnerability assessment was carried out with JNCC specialists.	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring

	requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc.
The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o One active and two inactive cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.2e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	Potential Management
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site, others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
    - By meeting targets further offshore, the number of sites needed closer inshore is reduced, sites closer to shore will be of higher value to the fishing industry.
    - The area has been highlighted through a Marxan analysis as an area of lower than average fishing utility.
    - A Steering Group member commented that pelagic fishing is present in the area, it was not clear whether this comment referred to netting, longlining or pelagic trawls or whether it refers to other types of pelagic fishing activity.
    - This site is important to almost twenty fishing vessels from South Normandy.

- *Pelagic gear*
    - As this site had previously been considered to provide protection for pelagic and mobile species, assumptions had been made that netting and longlining would not be permitted, and pelagic trawls would be permitted, but with mitigation against bycatch for seabirds.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

There is some concern from offshore fishing interests (beamers in particular) about this site, and that includes non-UK fishermen, as reflected in NCS comments. However, the stakeholder group went to a great degree of effort to accommodate the concerns of fishing representatives, e.g. by changing the site boundary to allow a NE-SW oriented corridor in between this site and the South-West Deeps (East) rMCZ, which is oriented in the same direction as fishing tows tend to be in this region.

Given the distance from shore, the site is relatively uncontroversial with other sectors.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Ellis *et al.,* (2000b).

Site map series

On the following pages there are two maps of this site.

- The first map (FR_010a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM29N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_010b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.2b, data sources are indicated in the table.
- Most site reports include a map showing socio-economic information, but this one does not, because there is not a lot of spatial data indicating activities occurring this far offshore (except for fisheries data, which is included in interactive PDF maps provided along with this report – see appendix 14). One of the maps included in the South-west Deeps (East) rMCZ site report (map FR_011c) shows a cable that clips the northern tip of the South-West Deeps (West) rMCZ.
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_010a

Version:30Aug11

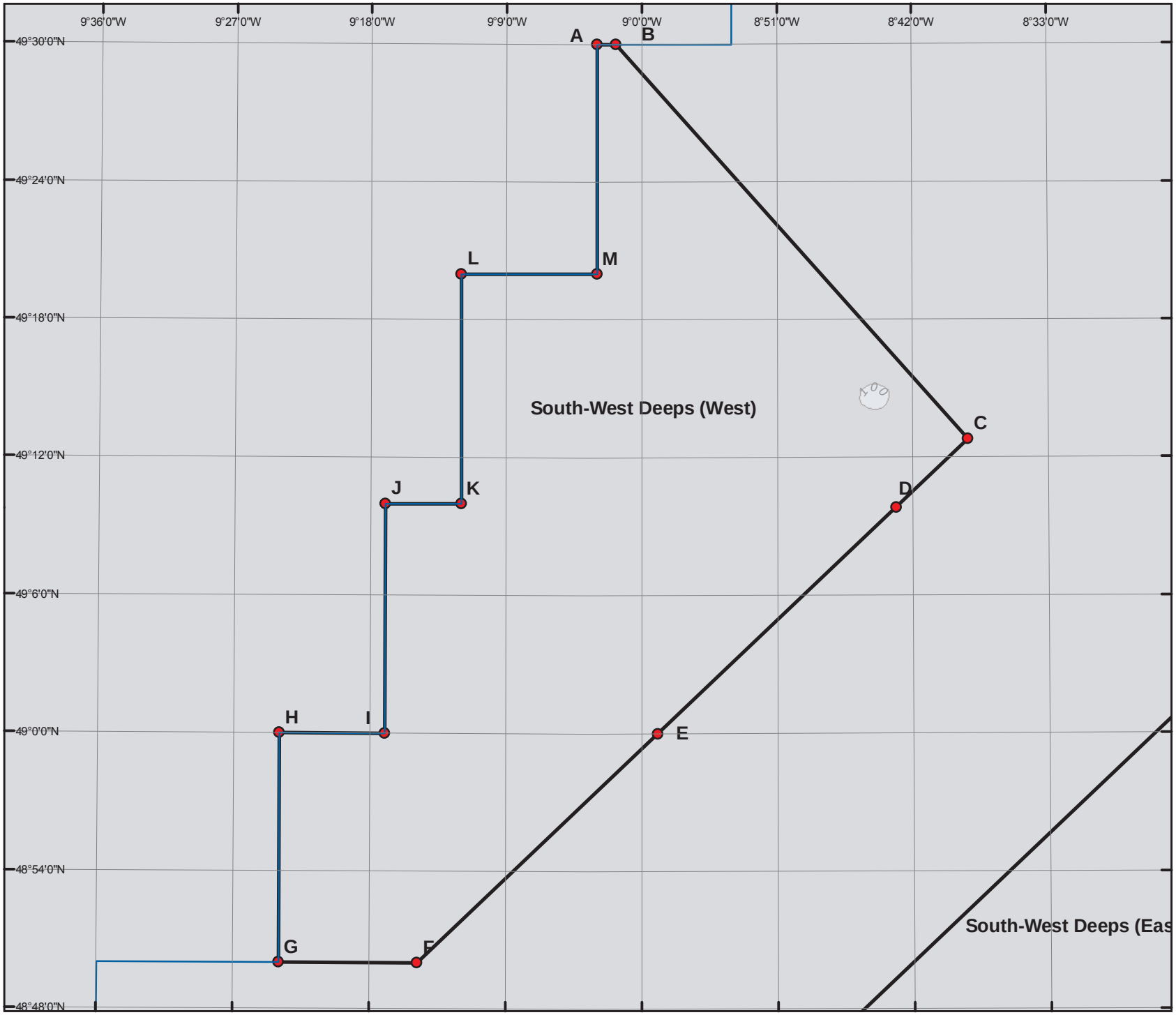
South-West Deeps (West) rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 5 10 20 km

N

FINDING SANCTUARY



Lat/Long Co-ordinates (WGS84)

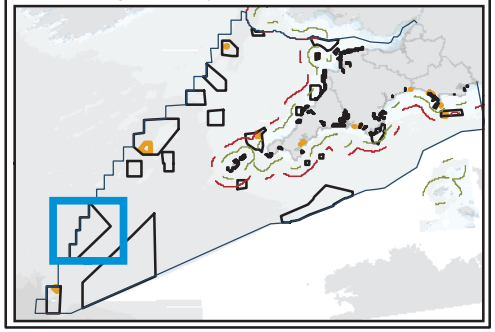
	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	49.5000	-9.0500	49° 29' 59" N	9° 3' 0" W
B	49.5000	-9.0284	49° 30' 0" N	9° 1' 42" W
C	49.2135	-8.6386	49° 12' 48" N	8° 38' 18" W
D	48.8331	-9.2470	48° 49' 59" N	9° 14' 49" W
E	48.8333	-9.4000	48° 49' 59" N	9° 24' 0" W
F	49.0000	-9.4000	48° 59' 59" N	9° 24' 0" W
G	49.0000	-9.2833	48° 59' 59" N	9° 17' 0" W
H	49.1667	-9.2833	49° 10' 0" N	9° 17' 0" W
I	49.1667	-9.2000	49° 10' 0" N	9° 11' 59" W
J	49.3333	-9.2000	49° 19' 59" N	9° 11' 59" W
K	49.3333	-9.0500	49° 19' 59" N	9° 3' 0" W
L	49.1641	-8.7184	49° 9' 50" N	8° 43' 6" W
M	48.9995	-8.9826	48° 59' 58" N	8° 58' 57" W

Map Legend

UK Continental Shelf Limit

Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_010b

Version:13Sep11

South-West Deeps (West) rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 5 10 20 km

N

FINDING SANCTUARY

9°48'0"W 9°36'0"W 9°24'0"W 9°12'0"W 9°0'0"W 8°48'0"W 8°36'0"W 8°24'0"W

49°30'0"N

49°21'0"N

49°12'0"N

49°3'0"N

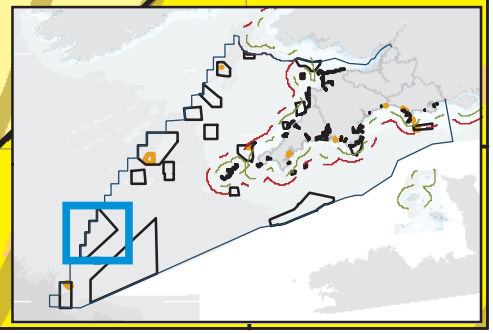
48°54'0"N

South-West Deeps (West)

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Celtic Sea relict sandbanks

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



II.3.3 South-West Deeps (East) rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	Long	Lat	Long
48.7304	-8.4090	48° 43' 49'' N	8° 24' 32'' W

***Site surface area*:** 5808.61 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

***Site boundary**:* The southern boundary of this site aligns with the UK Continental Shelf Limit. The NE / SW orientation of the longest boundary section is in parallel with the main boundary section of the South-West Deeps (West) site, in order to allow mobile gear fishermen to continue using the 'corridor' in between the sites (fishing representatives have stated that mobile gear fishermen using this area predominantly tow their gear in along tracks that follow a NE/SW orientation). The remaining site boundaries were drawn using simple N-S lines and minimum nodes, in line with ENG guidelines.

Sites to which the site is related: The South-West Deeps (East) rMCZ neighbours the South-West Deeps (West) rMCZ, The Canyons rMCZ and The Canyons recommended reference area. The nearest neighbouring rMCZ is South-West Deeps (West), separated by a corridor approximately 27km in width. The Canyons rMCZ (and recommended reference area within it) is approximately 30km to the south-west of the southernmost boundary.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM29N).

Features proposed for designation within South-west Deeps (East) rMCZ

Table II.3.3a Draft conservation objectives for the South-west Deeps (East) rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Subtidal coarse sediment	recover
Subtidal sand	maintain
Deep-sea bed	recover
Celtic sea relict sandbanks	maintain

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.3b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Subtidal coarse sediment	1747.24	6.1%	1
Subtidal sand	3934.32	11.7%	1
Deep-sea bed	126.73	7.9%	1

Table II.3.3c ***FOCI habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	3979.80			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

This rMCZ intersects with the geological / geomorphological feature of importance, Celtic Sea relict sandbanks. The rMCZ boundary contains 31.9% (417.63 km^2) of the feature, as mapped in MB102 data layers.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The site comprises an area of continental shelf sea where the seafloor habitat is dominated by subtidal mixed sediment and subtidal sand, and a section of the continental shelf break in the far south west corner. The eastern site boundary is approximately 170km SW of Land's End. The area is included in the network in order to meet ENG broad-scale habitat targets. The depth of the site is between 100 and 200m on the shelf, and between 200m and 1000m in the far south west corner (on the shelf break). The site is crossed by Celtic Sea Relict Sandbanks in a NE-SW direction (these sandbanks are listed as a geological / geomorphological interest feature in the ENG).

Detailed site description

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

Wilson *et al*. (2001) sampled benthic biodiversity in the area, but no exact location is specified. During the period 2000–2006, Ellis *et al*. (2007) carried out approximately 150 tows with 2m-beam trawl during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters. The study described the spatial distribution of the epibenthic fauna.

A station within South-West Deeps (East) was sampled for benthic infauna by Rees *et al*. (1999) in December 1992. The architecture of a tidal sand bank within South-West Deeps (East) in the south-eastern Celtic Sea was examined by Reynaud *et al.* (1999) using very high-resolution seismic surveys.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved. This assumption applies to all activities. Table II.3.3d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.3.e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.3d Specific assumptions and implications relating to South-West Deeps (East) rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate

	monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed (includes benthic trawling and hydraulic dredging). This activity was discussed during the VA and it was determined that bottom-towed fishing gear will not be allowed in the far west of the site (where the deep sea bed is present), and over subtidal coarse sediment. If zoning is not feasible, then the assumption is that bottom-towed gear types would not be allowed anywhere in the site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK (For this specific rMCZ, the implications for the non-UK fleet will be the most significant. This is relevant to longliners more than bottom-towed gear fishermen). o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots & static gear & cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.

Static fishing gear will be permitted, but there may need to be a limit on the amount of static gear used in the area. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore. Aviation Danger Area likely to exclude wind development.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o
Pelagic trawls will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc. o One proposed power cable.

The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational). Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o Four active and seven inactive telecoms cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.3e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	Potential Management
Commercial Fishing – all mobile bottom gears	- Prohibition of fishing over specific BSH/FOCI: These are: Deep-sea bed, subtidal coarse sediment Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site, others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
    - By meeting targets far offshore, the number of sites needed closer inshore is reduced, sites closer to shore will be of higher value to the fishing industry.
    - The area has been highlighted through a Marxan analysis as an area of lower than average fishing utility.
    - This site is important to almost twenty fishing vessels from South Normandy.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.
    - The outcome of the Vulnerability Assessment originally set the Conservation Objective for subtidal coarse sediment at this site as 'maintain' and likely management proposed suggested mobile gear could continue to be used in this site at current levels. Concerns were raised that there was no logic in having this area as an MCZ if there were to be no restrictions on damaging activities. A subsequent national sense check of the Vulnerability Assessment outcomes by JNCC lead to the Conservation Objective for subtidal coarse sediment being changed to 'recover' (this advice was provided during the final Joint Working Group meeting in June 2011).

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

There is some beam and otter trawl activity within the site, but this area is less contentious to the UK fishing sector than other areas considered. The main concern is from beam trawlers, and efforts were made to draw the site boundary in such a way as to minimise potential negative impacts, e.g. by keeping a NE-SW oriented corridor in between this site and the South-West Deeps (West) rMCZ, to allow tows to continue within the corridors (fishing tows in this area tend to be oriented in this direction). Non-UK fishermen have raised concern over this area, as it is used by almost twenty fishing vessels from South Normandy (NCS comments).

Given the distance from shore, the site is relatively uncontroversial with other sectors.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Evans & Hughes (1984), and Scourse *et al.* (2009).

Site map series

On the following pages there are three maps of this site.

- The first (map FR_011a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM29N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_011b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.3b, data sources are indicated in the table.
- The third map (FR_011c) shows KISCA cable routes and some additional socio-economic information, zoomed out to show The Canyons rMCZ and South-West Deeps (West) rMCZ. Please refer to the interactive PDF maps for fisheries data, provided with the additional materials listed in appendix 14.
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_011a

Version:30Aug11

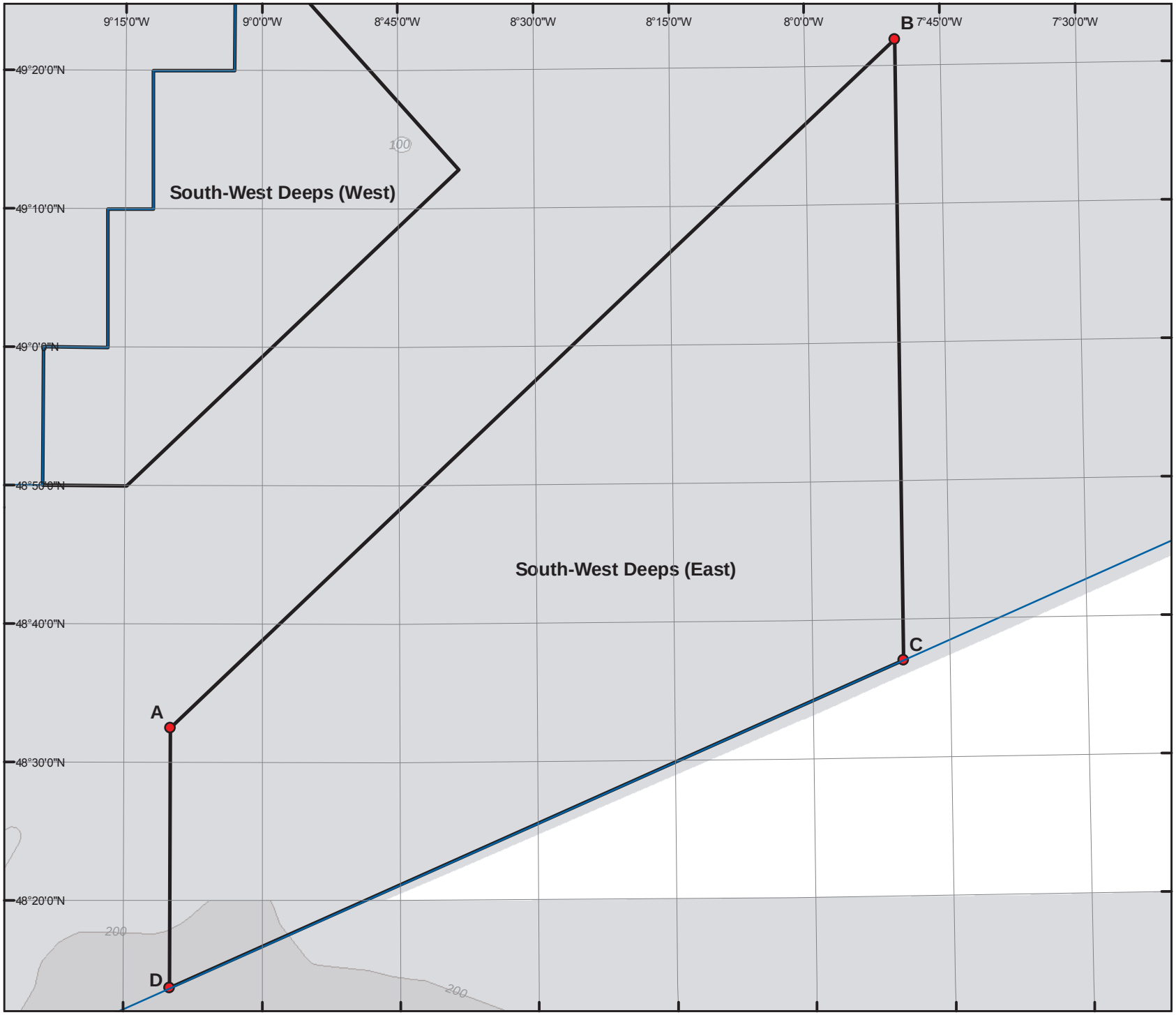
South-West Deeps (East) rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 10 20 30 km

N

FINDING SANCTUARY



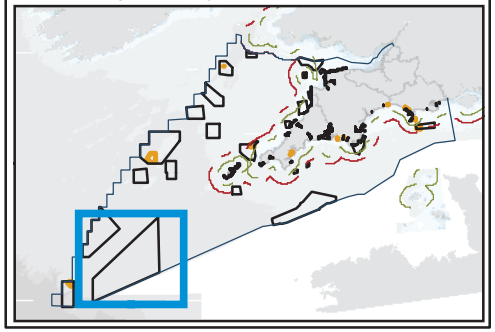
Lat/Long Co-ordinates (WGS84)

	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	48.5408	-9.1667	48° 32' 26" N	9° 9' 59" W
B	49.3657	-7.8333	49° 21' 56" N	7° 49' 59" W
C	48.6171	-7.8336	48° 37' 1" N	7° 50' 0" W
D	48.2276	-9.1667	48° 13' 39" N	9° 10' 0" W

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_011b

Version:13Sep11

South-West Deeps (East) rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 15 30 km

N

FINDING SANCTUARY

9°20'0"W 9°0'0"W 8°40'0"W 8°20'0"W 8°0'0"W 7°40'0"W 7°20'0"W 7°0'0"W

49°19'0"N

49°6'0"N

48°53'0"N

48°40'0"N

48°27'0"N

48°14'0"N

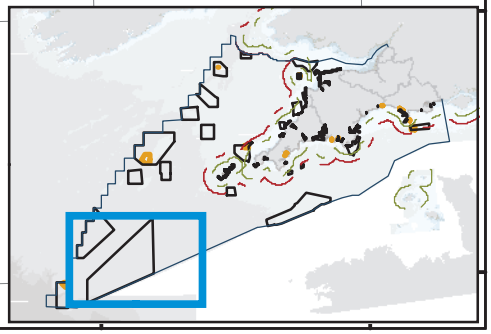
South-West Deeps (West)

South-West Deeps (East)

Map Legend

- UK Continental Shelf limit
- Recommended MCZ (rMCZ)
- Celtic Sea relict sandbanks

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



Map: FR_011c

Version:5Sep11

South-West Deeps (East and West) and The Canyons rMCZs

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with socio-economic information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 10 20 40 km

N

FINDING SANCTUARY

10°0'0"W 9°40'0"W 9°20'0"W 9°0'0"W 8°40'0"W 8°20'0"W 8°0'0"W 7°40'0"W 7°20'0"W 7°0'0"W

49°19'0"N

49°6'0"N

48°53'0"N

48°40'0"N

48°27'0"N

48°14'0"N

South-West Deeps (West)

South-West Deeps (East)

The Canyons

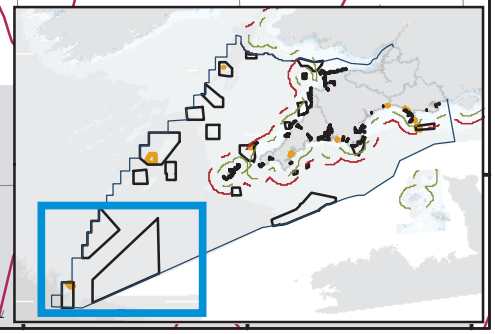
The Canyons

100 200 500 1000 2000 3000

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area
- Charted wrecks
- Power and telecommunications cables (KISCA)

This map series contains data from a variety of sources including the UKHO, the Environment Agency, and The Crown Estate. A full list and a comprehensive legend can be found in the appendices of the Finding Sanctuary final report.



II.3.4 North-West of Jones Bank rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	Long	Lat	Long
49.9151	-8.1936	49° 54' 54'' N	8° 11' 36'' W

***Site surface area*:** 398.09 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: This site is a simple rectangle following N-S and E-W lines, in line with ENG guidelines.

Sites to which the site is related: The North-west of Jones Bank rMCZ neighbours Greater Haig Fras rMCZ and Greater Haig Fras recommended reference area which are to the north-east and East of Jones Bank rMCZ which is to the east.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM29N).

Features proposed for designation within North-west of Jones Bank rMCZ

Table II.3.4a Draft conservation objectives for the North-west of Jones Bank rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Subtidal sand	recover
Subtidal mud	recover
Subtidal coarse sediment	recover

The inclusion of conservation objectives for seabirds on the conservation objective feature list for a zone covering the western half of this site was discussed at length at the Joint Working Group meeting in May 2011, in the full understanding of SAP feedback following progress report 3, and the JNCC's position that they would not support conservation objectives for mobile species in offshore rMCZs. The JWG could not reach a conclusion on the matter.

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.4b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Subtidal coarse sediment	3.75	<0.1%	1
Subtidal sand	5.90	<0.1%	1
Subtidal mud	388.45	6.2%	1

Table II.3.4c ***FOCI habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	328.44			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The site comprises an area of continental shelf sea where the seafloor habitat dominated by subtidal mud. The eastern site boundary is approximately 165km west of Land's End. The area is included in the network in order to meet ENG broad-scale habitat targets. The depth of the site is between 100 and 200m. The area has been highlighted by conservation representatives on the JWG as a foraging ground for seabirds during the winter.

Detailed site description

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

Wilson *et al*. (2001) sampled benthic biodiversity in the area, but no exact location was given. Hamilton *et al*. (1980) describe the shelf sediments of South West Britain including Jones Bank and surrounds. Scourse *et al.* (2009) generated peak bed stress data of the Celtic Sand Ridges.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation

objectives from being achieved. This assumption applies to all activities. Table II.3.4d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.4e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.4d Specific assumptions and implications relating to North west of Jones Bank rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.
Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed.	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and

Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may ned to be a limit on the amount of static gear used in the area. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted	**Direct implications:** o **Given this assumption, there are still the following**

Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore. Aviation Danger Area likely to exclude wind development.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o

Pelagic longlining, pelagic netting and pelagic trawls will be allowed to continue (for static gear, see previous). Mobile species (seabirds and cetaceans) not considered as features needing protection when the vulnerability assessment was carried out with JNCC specialists.	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc. o Proposed power cable 1.5 km east of this rMCZ
The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o Two active and four inactive telecoms cables.

Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table *II.3.4e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.*

Sector	**Potential Management**
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site; others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
    - The area has been highlighted through a Marxan analysis as an area of lower than average fishing utility.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.

- *Pelagic gear*
    - As this site had previously been considered to provide protection for pelagic and mobile species, assumptions had been made that netting and longlining would not be permitted, and pelagic trawls would be permitted, but with mitigation against bycatch for seabirds.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.
    - The outcome of the Vulnerability Assessment originally set the Conservation Objective for subtidal coarse sediment at this site as 'maintain' and likely management proposed suggested mobile gear could continue to be used in this site at current levels. A subsequent national sense check of the Vulnerability Assessment outcomes by JNCC lead to the Conservation Objective for subtidal coarse sediment being changed to 'recover' (this advice was provided during the final Joint Working Group meeting in June 2011).

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

There is significant fishing activity from non-UK vessels within this area, especially French and Belgian fleet. Commercial fishing representatives from South Normandy do not support this building block at this stage because the area is important to almost twenty fishing vessels from South Normandy (NCS comments).

The area is less intensively used by UK fishermen, and given the distance from shore, the rMCZ is less controversial with other sectors, compared to areas closer to shore.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description.

Site map series

On the following pages there are two maps of this site.

- The first map (FR_012a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM29N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_012b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.4b, data sources are indicated in the table.
- Most rMCZ site reports contain a map showing socio-economic datasets. This one does not, as there is limited human activity mapped in the site (except for fisheries information, which is included in the interactive PDF maps supplied with the additional materials listed in appendix 14). A cable running through this site is shown on map FR_013c, in the Greater Haig Fras rMCZ site report.
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_012a

Version:30Aug11

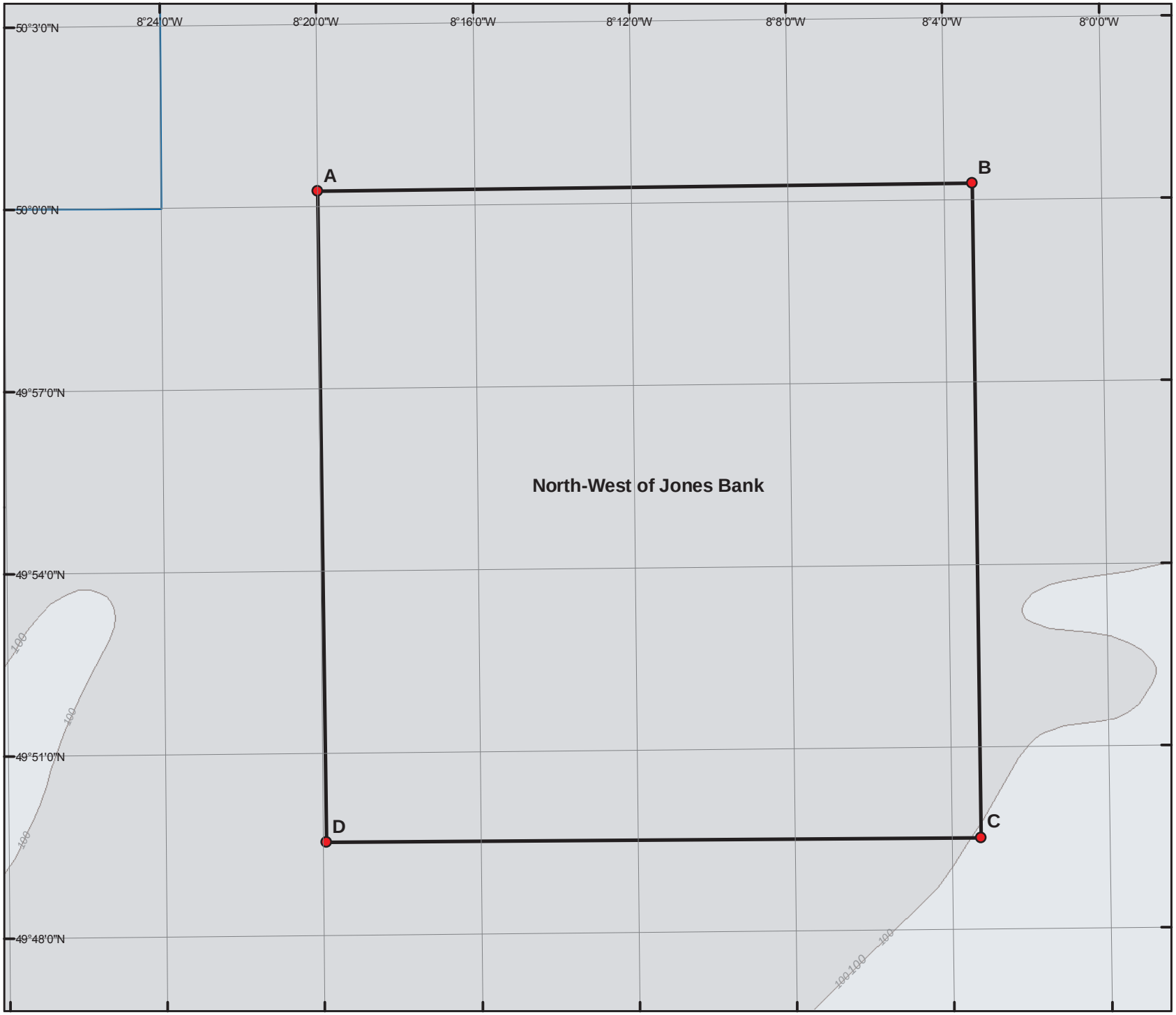
North-West of Jones Bank rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 2 4 8 km

N

FINDING SANCTUARY



Lat/Long Co-ordinates (WGS84)

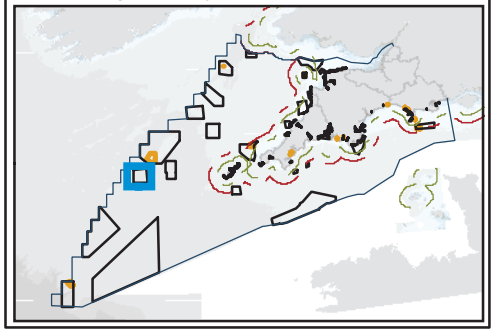
	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	50.0045	-8.3333	50° 0' 16" N	8° 19' 59" W
B	49.8252	-8.0545	49° 49' 30" N	8° 3' 16" W
C	50.0047	-8.1940	50° 0' 16" N	8° 11' 38" W
D	49.8257	-8.3321	49° 49' 32" N	8° 19' 55" W

Map Legend

UK Continental Shelf Limit

Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_012b

Version:31Aug11

North-West of Jones Bank rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 3.5 7 km

N

FINDING SANCTUARY

8°24'0"W 8°18'30"W 8°13'0"W 8°7'30"W 8°2'0"W 7°56'30"W

50°0'0"N

49°56'30"N

49°53'0"N

49°49'30"N

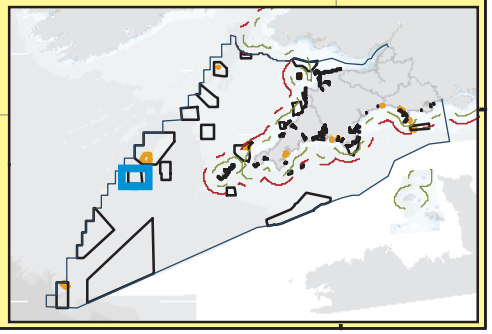
North-West of Jones Bank

Map Legend

UK Continental Shelf Limit

Recommended MCZ (rMCZ)

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



II.3.5 Greater Haig Fras rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	Long	Lat	Long
50.3014	-7.7940	50° 18' 4'' N	7° 47' 38'' W

***Site surface area*:** 2,040.95 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: The western boundary of this site is aligned with the UK Continental Shelf Limit. The remainder of the site has been drawn to encompass the entirety of the geomorphological feature Haig Fras and Haig Fras cSAC, with surrounding areas of sediment. The boundary has been made simple, in line with ENG guidelines.

Sites to which the site is related: The Greater Haig Fras rMCZ contains the Greater Haig Fras recommended reference area. The Haig Fras cSAC is wholly within the Greater Haig Fras rMCZ. The site neighbours the North-west of Jones Bank rMCZ (approximately 9km south of the southern site boundary), East of Jones Bank rMCZ (immediately to the south-east, with the smallest gap being less than 2km), North-east of Haig Fras rMCZ (approximately 22km to the north-east of the northern boundary), and East of Haig Fras rMCZ (approximately 40km to the east).

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM29N).

Features proposed for designation within Greater Haig Fras rMCZ

Table II.3.5a Draft conservation objectives for the Greater Haig Fras rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Moderate energy circalittoral rock	recover
Subtidal coarse sediment	recover
Subtidal mixed sediments	recover
Subtidal mud	recover
Subtidal sand	recover
Fragile sponge & anthozoan communities on subtidal rocky habitats	*To be confirmed*[1]
Haig Fras rock complex	maintain

[1]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.

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.5b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Moderate energy circalittoral rock	688.98	3.7%	1
Subtidal coarse sediment	413.46	1.4%	1
Subtidal sand	316.79	0.9%	1
Subtidal mud	236.39	3.8%	1
Subtidal mixed sediments	115.79	3.2%	1
Moderate energy circalittoral rock[1]	263.82	1.4%	1

[1] Features / areas already protected within an overlapping MPA. Refer to the gap table (appendix 11) for details.

Table II.3.5c ***FOCI habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	1371.79			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

A recent (Jan / Feb 2011) offshore survey conducted by the JNCC found Fragile sponge & anthozoan communities on subtidal rocky habitat present within the area of the cSAC boundary, though we do not have the number or location of the records mapped. Any of this FOCI present within the current cSAC boundary would already be protected, so would not be added to the Conservation Objectives for the rMCZ.

This rMCZ intersects with the geological / geomorphological feature of importance, Haig Fras rock complex. The rMCZ boundary contains 100% (74.73 km^2) of the feature, as mapped in MB102 data layers.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The easternmost boundary of this rMCZ is approximately 120km west of Land's End. The site includes Haig Fras rock complex, an ENG-listed geomorphological feature consisting of a rocky outcrop from the surrounding sediment-dominated shelf seabed. The outcrop rises to a depth of less

than 50m. The surrounding seabed is at a depth of between 100 and 200m, and it is covered in a diversity of sediment types, ranging from mud to coarse and mixed sediments.

Within the boundary of the cSAC, the rock is already protected, so only the sediment broad-scale habitats present are to be protected by the rMCZ. The figures in the table below do not include the rock that is already protected within the cSAC boundary.

Detailed site description

Greater Haig Fras is an isolated, fully submarine bedrock outcrop located in the Celtic Sea, 95 km north-west of the Isles of Scilly. It is the only substantial area of rocky reef in the Celtic Sea beyond the coastal margin. It supports a variety of fauna ranging from jewel anemones and Devonshire cup coral near the peak of the outcrop to encrusting sponges, crinoids and ross coral towards the base of the rock (where boulders surround its edge). The rock is granite, mostly smooth with occasional fissures. The rocky outcrop protrudes from an area of surrounding sediment and is approximately 45 km long, 15km wide, and in one area rises to a peak 1km wide, which lies just 38 m beneath the sea surface. Around the base of the shoal, boulders and cobbles partially embedded in sediment provide a complex habitat. Distinct biotopes are associated with both the rock habitat and the sediment 'pockets' which occur on the platform area (Rees, 2000; JNCC, 2008).

On the uppermost parts of the Haig Fras shoal, the exposed bedrock is dominated by the jewel anemone *Corynactis viridis.* This region also supports encrusting sponges and bryozoans, as well as mobile fauna such as the sea urchin *Echinus esculentus* and gastropod mollusc *Calliostoma* spp. At the shallowest depth surveyed (c. 52 m), small patches of encrusting pink coralline algae were observed, indicating that the peak of the shoal protrudes into the photic zone (Rees, 2000). At depths of between 60 m and 70 m, the shoal bedrock is slightly covered in silt and is not widely colonised except by cup corals *Caryophyllia smithii* (which are abundant) and a few mobile species such as the urchin *Echinus esculentus*, *Calliostoma s*pp. and crinoids (*Antedon* spp.). High numbers of cup corals were also seen on parts of the rock platform away from the shoal (Rees, 2000). At the base of the shoal, the rock was covered with a thin layer of fine calcareous sand and mud and supported cup sponges, erect branching sponges, *Caryophyllia smithii* (although in lower numbers than shallower parts of the shoal) and crinoids (Rees, 2000). The boulders and cobbles around the base of the shoal supported encrusting sponge, *Caryophyllia smithii* and crinoids in low numbers; brittlestars, squat lobster (*Munida* spp.) and the ross coral *Pentapora foliacea* (now *Pentapora fascialis*) were also present (Rees, 2000).

A detailed survey of Haig Fras has been being undertaken by McBreen *et al.* (2011) which is detailed on p.83 of The Temperate Reefs Symposium. During the period 2000–2006, Ellis et al. (2007a) carried out approximately 150 tows with 2m-beam trawl have been undertaken during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters. The study described the spatial distribution of the epibenthic fauna Ellis et al. (2007a).

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved.** This assumption applies to all activities. Table II.3.5d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.5e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.5d Specific assumptions and implications relating to Greater Haig Fras rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.
Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed.	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and

Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may need to be a limit on the amount of static gear used in the area. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted	**Direct implications:** o

Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore. Aviation Danger Area likely to exclude wind development.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o

Pelagic trawls will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc. o One proposed power cable.
The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o Three active and five inactive telecoms cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working roup definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.5e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	Potential Management
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site; others were more generic comments which the project team consider to be relevant to this site.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: ‘When considering the impacts of fishing restrictions on non UK vessels, it is

the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Existing MPAs*
  - The Haig Fras SAC falls within this rMCZ. The SAC does not protect all seafloor habitats that fall within it. The rMCZ would protect features within the current SAC boundaries which are not protected by the SAC designation, including subtidal mixed sediments, coarse sediment and sand.

- *Vulnerability Assessment*
  - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.
  - The outcome of the Vulnerability Assessment originally set the Conservation Objective for subtidal coarse sediment at this site as 'maintain' and likely management proposed suggested mobile gear could continue to be used in this site at current levels. A subsequent national sense check of the Vulnerability Assessment outcomes by JNCC lead to the Conservation Objective for subtidal coarse sediment being changed to 'recover' (this advice was provided during the final Joint Working Group meeting in June 2011).

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

There is significant fishing activity from non-UK vessels within this area, especially French and Belgian fleet. Commercial fishing representatives from South Normandy do not support this building block at this stage because the area is important to almost twenty fishing vessels from South Normandy (NCS comments).

The area is less intensively used by UK fishermen, and given the distance from shore, the rMCZ is less controversial with other sectors, compared to areas closer to shore.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Garrard

(1977), Jones *et al.* (1988), Smith *et al.*(1965), and Wilson *et al.* (2001). Further information on the Natura 2000 sites to which this site is related may be found on the JNCC's website[19].

Site map series

On the following pages there are three maps of this site.

- The first map (FR_013a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM29N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_013b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.5b, data sources are indicated in the table.
- The third map (FR_013c) shows KISCA cable routes and some other human activity information. It is zoomed out to include North-West of Jones Bank rMCZ and East of Jones Bank rMCZ. For spatial data showing the distribution of fishing effort, please refer to the interactive PDF maps supplied with the additional materials (see appendix 14).
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

[19] http://jncc.defra.gov.uk/page-4

Map: FR_013a

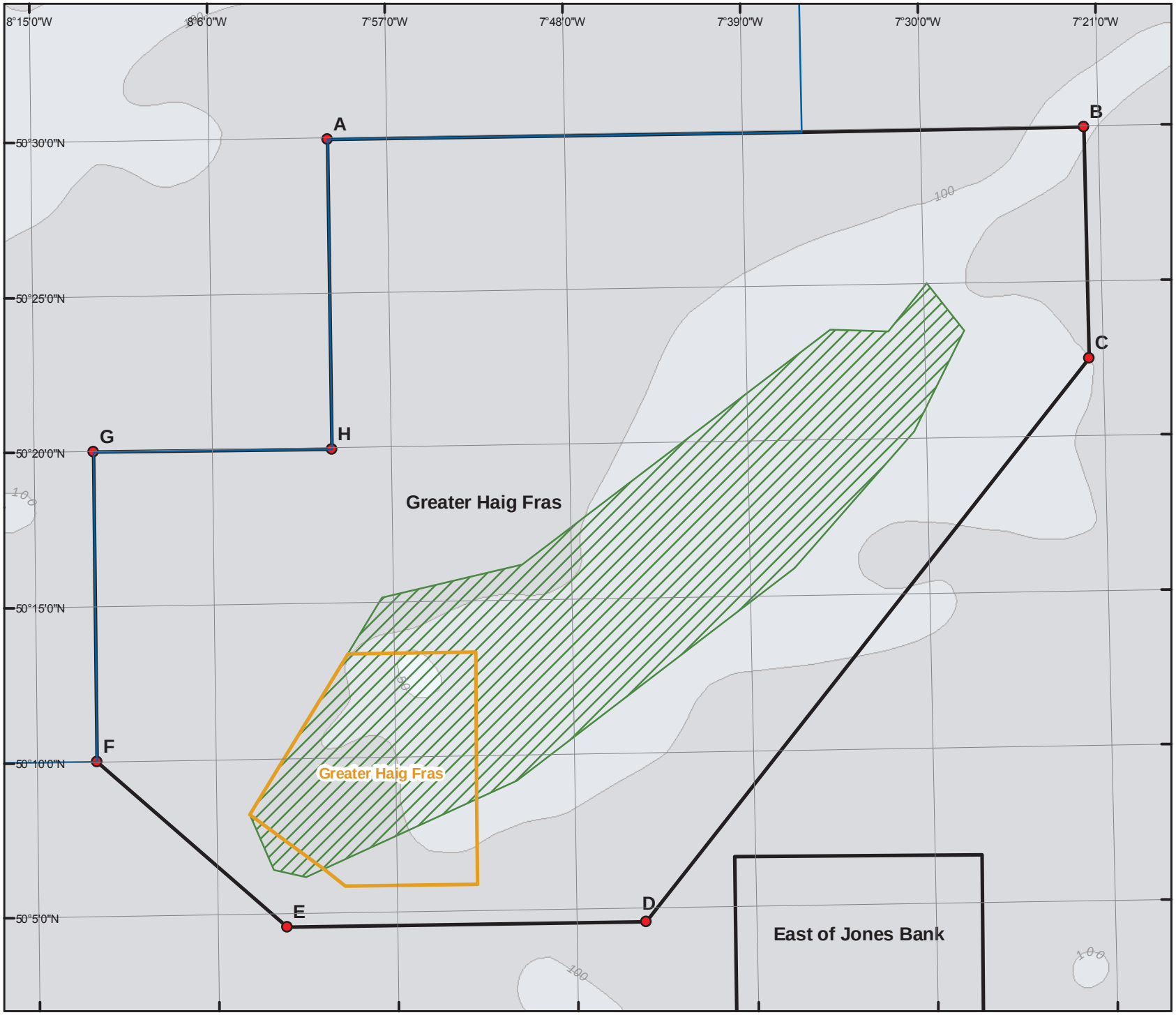
Version:25Aug11

Greater Haig Fras rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 4 8 16 km N

FINDING SANCTUARY



Lat/Long Co-ordinates (WGS84)

	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	50.5000	-8.0000	50° 29' 59" N	7° 59' 59" W
B	50.4994	-7.3617	50° 29' 58" N	7° 21' 41" W
C	50.3752	-7.3616	50° 22' 30" N	7° 21' 41" W
D	50.0765	-7.7426	50° 4' 35" N	7° 44' 33" W
E	50.0766	-8.0426	50° 4' 35" N	8° 2' 33" W
F	50.1667	-8.2000	50° 9' 59" N	8° 12' 0" W
G	50.3333	-8.2000	50° 19' 59" N	8° 12' 0" W
H	50.3333	-8.0000	50° 19' 59" N	7° 59' 59" W

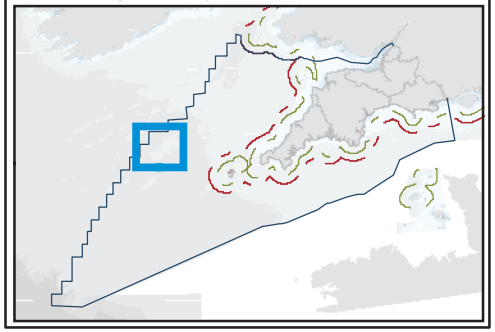
Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area

Existing MPAs

- SAC

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_013b

Version:31Aug11

Greater Haig Fras rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 3.5 7 14 km

N

FINDING SANCTUARY

8°10'0"W 8°0'0"W 7°50'0"W 7°40'0"W 7°30'0"W 7°20'0"W 7°10'0"W

50°28'0"N

50°21'0"N

50°14'0"N

50°7'0"N

Greater Haig Fras

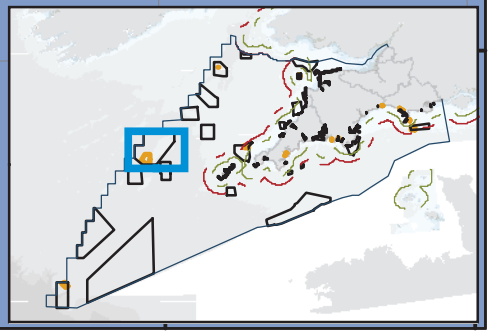
Greater Haig Fras

East of Jones Bank

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area
- Haig Fras rock complex

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



Map: FR_013c

Version:5Sep11

Greater Haig Fras, North-West of Jones Bank and East of Jones Bank rMCZs

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with socio-economic information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 5 10 20 km

N

FINDING SANCTUARY

8°24'0"W 8°12'0"W 8°0'0"W 7°48'0"W 7°36'0"W 7°24'0"W 7°12'0"W 7°0'0"W

50°24'0"N

50°16'0"N

50°8'0"N

50°0'0"N

49°52'0"N

Greater Haig Fras

Greater Haig Fras

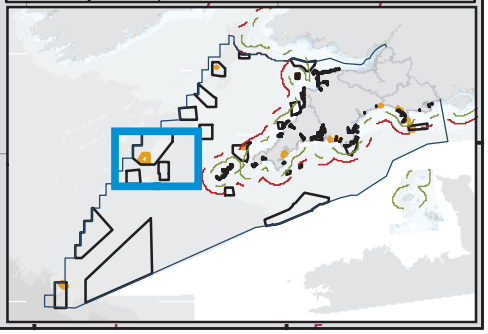
North-West of Jones Bank

East of Jones Bank

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area
- Charted wrecks
- Power and telecommunications cables (KISCA)

This map series contains data from a variety of sources including the UKHO, the Environment Agency, and The Crown Estate. A full list and a comprehensive legend can be found in the appendices of the Finding Sanctuary final report.



II.3.6 East of Jones Bank rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	**Long**	**Lat**	**Long**
49.9984	-7.5597	49° 59' 54'' N	7° 33' 35'' W

***Site surface area*:** 359.38 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: The boundary of this site is a simple shape consisting of N-S and E-W lines, in line with the ENG.

Sites to which the site is related: The East of Jones Bank rMCZ neighbours North-west of Jones Bank rMCZ (approximately 27km is to the west), and Greater Haig Fras rMCZ (immediately to the north-west). The Haig Fras SAC is nearby East of Jones Bank rMCZ.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM29N).

Features proposed for designation within East of Jones Bank rMCZ

Table II.3.6a Draft conservation objectives for the East of Jones Bank rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Moderate energy circalittoral rock	recover
Subtidal mud	recover
Subtidal sand	recover

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.6b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Moderate energy circalittoral rock	342.75	1.8%	1
Subtidal sand	2.19	<0.1%	1
Subtidal mud	14.44	0.2%	1

Table II.3.6c ***FOCI habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	354.10			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The eastern site boundary is approximately 126km to the west of Land's End. The site is at a depth of between 100 and 200m, and is largely characterised by moderate energy circalittoral rock. There is anecdotal evidence from fishing representatives on the stakeholder group that this area is characterised not by solid bedrock, but loose cobbles (which in the modelled EUNIS L3 data would be classified as 'rock'). The site is included to meet ENG targets for broad-scale habitats.

Detailed site description

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

Wilson *et al*. (2001) sampled benthic biodiversity in the area, but no exact location was given. Hamilton *et al*. (1980) describe the shelf sediments of South West Britain including Jones Bank and surrounds.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation**

objectives from being achieved. This assumption applies to all activities. Table II.3.6d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.6e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.6d Specific assumptions and implications relating to East of Jones Bank. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.
Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource,

	then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may ned to be a limit on the amount of static gear used in the area. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites*	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional

in the network, although it can apply to any given site on its own. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore. Aviation Danger Area likely to exclude wind development.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o

Pelagic trawls will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc.
The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o Two active and three inactive telecoms cables.

Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.6e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	Potential Management
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site; others were more generic comments which the project team consider to be relevant to this site.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: ‘When considering the impacts of fishing restrictions on non UK vessels, it is

the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

The area is used by UK fishermen (some trawling), and by non-UK vessels, especially French and Belgian. Other sectors have voiced relatively little concern about this site.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Garrard (1977).

Site map series

On the following pages there are two maps of this site.

- The first map (FR_014a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM29N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_014b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.6b, data sources are indicated in the table.
- Most rMCZ site reports contain a map showing socio-economic datasets. This one does not, as there is limited human activity mapped in the site (except for fisheries information, which is included in the interactive PDF maps supplied with the additional materials listed in

appendix 14). Cables running through this site are shown on map FR_013c, in the Greater Haig Fras rMCZ site report.

- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_014a

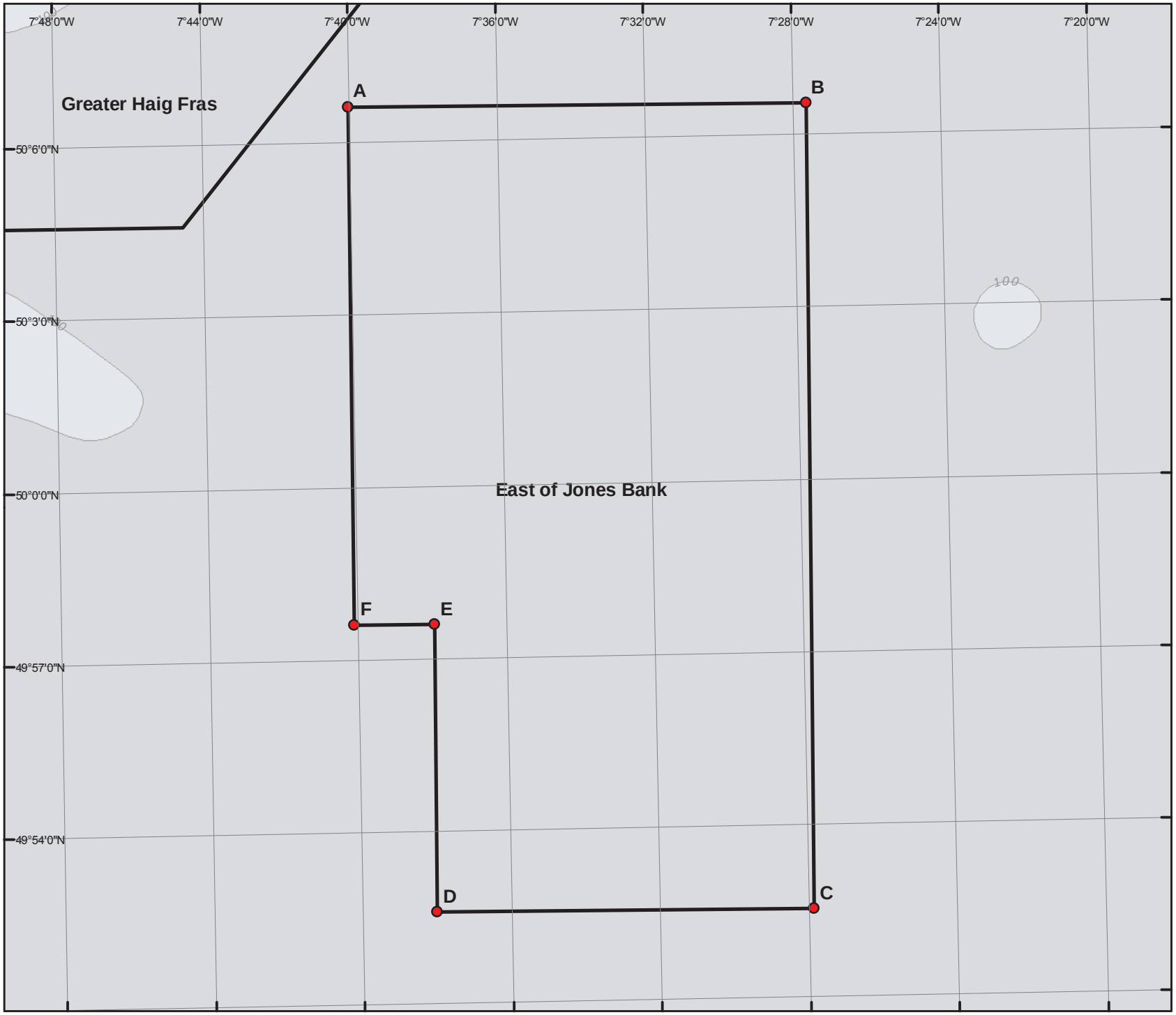
Version:25Aug11

East of Jones Bank rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 2 4 8 km N

FINDING SANCTUARY



Lat/Long Co-ordinates (WGS84)

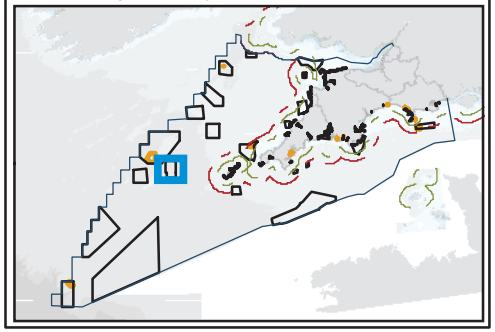
	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	50.1108	-7.6674	50° 6' 38" N	7° 40' 2" W
B	50.1094	-7.4607	50° 6' 33" N	7° 27' 38" W
C	49.8757	-7.4644	49° 52' 32" N	7° 27' 51" W
D	49.8768	-7.6334	49° 52' 36" N	7° 38' 0" W
E	49.9603	-7.6324	49° 57' 36" N	7° 37' 56" W
F	49.9605	-7.6685	49° 57' 37" N	7° 40' 6" W

Map Legend

UK Continental Shelf Limit

Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_014b

Version:31Aug11

East of Jones Bank rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM29N.

0 2 4 8 km

N

FINDING SANCTUARY

7°50'0"W 7°45'0"W 7°40'0"W 7°35'0"W 7°30'0"W 7°25'0"W 7°20'0"W 7°15'0"W

50°6'0"N

50°3'0"N

50°0'0"N

49°57'0"N

49°54'0"N

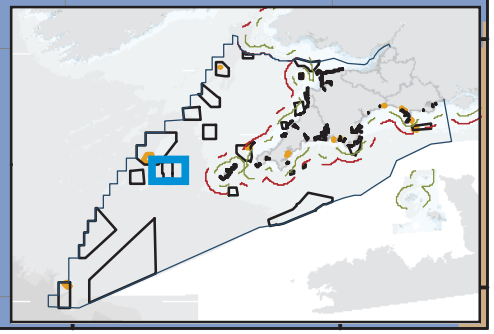
Greater Haig Fras

East of Jones Bank

Map Legend

Recommended MCZ (rMCZ)

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



II.3.7 East of Haig Fras rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	**Long**	**Lat**	**Long**
50.4988	-6.6538	50° 29' 55'' N	6° 39' 13'' W

***Site surface area*:** 399.38 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: The site is a simple rectangle with boundaries aligned N-S and E-W, in line with ENG guidelines. The northern part of the site overlaps with the Trevose Box.

Sites to which the site is related: The East of Haig Fras rMCZ neighbours Greater Haig Fras rMCZ which is approx. 40km to the west, North-east of Haig Fras rMCZ which is approximately 9km to the north-west and South of Celtic Deep rMCZ which is approximately 27km to the north.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM30N).

Features proposed for designation within East of Haig Fras rMCZ

Table II.3.7a Draft conservation objectives for the East of Haig Fras rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Moderate energy circalittoral rock	recover
Subtidal coarse sediment	recover
Subtidal sand	recover

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.7b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Moderate energy circalittoral rock	9.79	<0.1%	1
Subtidal coarse sediment	235.53	0.8%	1
Subtidal sand	154.65	0.5%	1

Table II.3.7c ***FOCI habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	264.78			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The south-eastern corner of the site is approximately 67km from the Land's End peninsula. The site is an area of continental shelf, most of which is between 50m and 100m in depth. Small areas in the western end of the site dip below the 100m depth contour. The seabed is characterised by coarse sediment and sand. The site has been included in the network to meet ENG criteria on broad-scale habitats.

For additional understanding on how this site is located in relation to areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal or persistent sea surface temperature fronts, please refer to the data layers supplied in the interactive PDF presented alongside this report.

Detailed site description

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

Wilson *et al*. (2001) sampled benthic biodiversity in the area, but no exact location was indicated. During the period 2000–2006, Ellis *et al*. (2007a) carried out approximately 150 tows with a 2m-beam trawl during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters. The study described the spatial distribution of the epibenthic fauna.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved.** This assumption applies to all activities. Table II.3.7d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.7e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.7d Specific assumptions and implications relating to East of Haig Fras rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.
Anchoring of large vessels will not be allowed (except in emergencies)	**Direct implications:** o

Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may ned to be a limit on the amount of static gear used in the area. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) Given this assumption, there are still the following concerns: o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed

The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore. Aviation Danger Area likely to exclude wind development.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:**

	o
Pelagic trawls will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc. o One proposed power cable.
The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o Four active and three inactive telecoms cables.

Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.7e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	Potential Management
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in over specific BSH/FOCI. These are: subtidal coarse sediment, subtidal sand (muddy parts) Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site; others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
    - The area has been highlighted through a Marxan analysis as an area of lower than average fishing utility.
    - This area would impact on the fishing industry. However, the area included in the developing network configuration has less of an impact than the other building blocks that were previously drawn in the surrounding area.
    - This site is important to almost twenty fishing vessels from South Normandy.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.
    - Moderate energy circalittoral rock was originally given a Conservation Objective set to 'maintain' but this was amended to 'recover' because VMS data shows demersal fishing gear over the feature. It has been recognised that (i) VMS data are coarse and demersal trawls could be avoiding this feature and (ii) the habitat data is modelled and the presence of demersal trawls suggests this could be sediment rather than rocky habitat.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

The area is used by non-UK fishermen, especially French and Belgian. Commercial fishing representatives from South Normandy do not support this site (NCS comments). Other sectors have voiced relatively little concern about this site.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Garrard (1977), and Larsonneur *et al.* (1982).

Site map series

On the following pages there are three maps of this site.

- The first map (FR_015a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM30N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_015b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.7b, data sources are indicated in the table.
- The third map (FR_015c) shows KISCA cable routes and some other human activity information. It is zoomed out to include South of Celtic Deep rMCZ and North-East of Haig Fras rMCZ. For spatial data showing the distribution of fishing effort, please refer to the interactive PDF maps supplied with the additional materials (see appendix 14).
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_015a

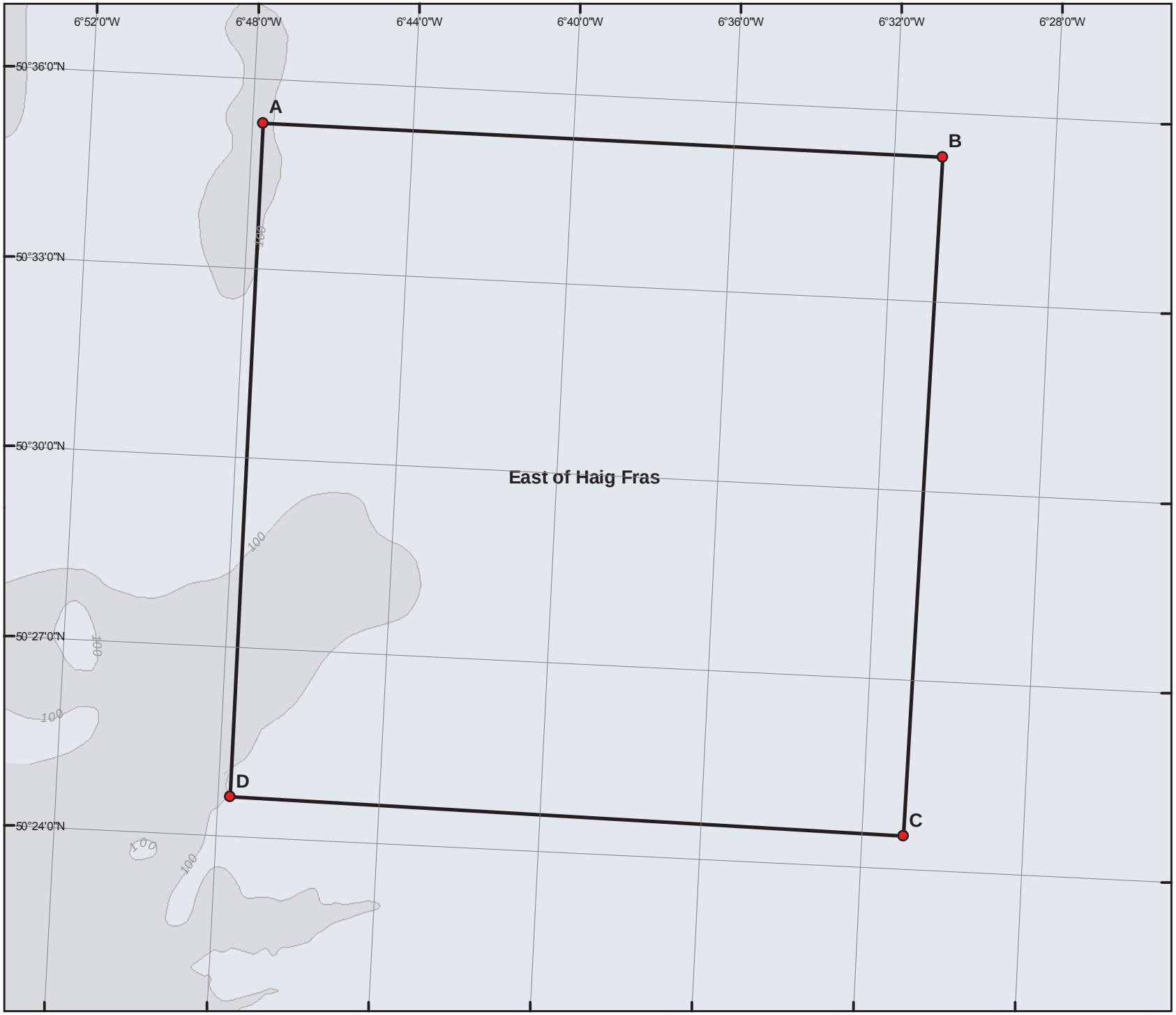
Version:25Aug11

East of Haig Fras rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 2 4 8 km N

FINDING SANCTUARY



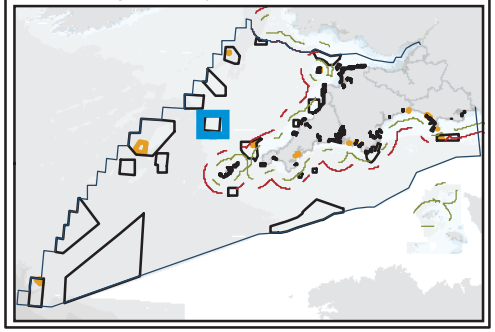
Lat/Long Co-ordinates (WGS84)

	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	50.5887	-6.7953	50° 35' 19" N	6° 47' 42" W
B	50.5886	-6.5130	50° 35' 19" N	6° 30' 46" W
C	50.4089	-6.5161	50° 24' 32" N	6° 30' 58" W
D	50.4106	-6.7949	50° 24' 38" N	6° 47' 41" W

Map Legend

Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_015b

Version:31Aug11

East of Haig Fras rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 3.5 7 km N

FINDING SANCTUARY

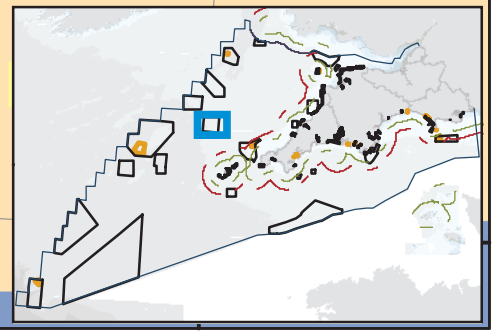
50°36'0"N
6°50'0"W
6°45'0"W
6°40'0"W
6°35'0"W
6°30'0"W
6°25'0"W
50°33'0"N
50°30'0"N
50°27'0"N
50°24'0"N

East of Haig Fras

Map Legend

Recommended MCZ (rMCZ)

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



Map: FR_015c

Version:5Sep11

South of Celtic Deep, North-East and East of Haig Fras rMCZs

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with socio-economic information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 5 10 20 km

N

FINDING SANCTUARY

7°12'0"W 7°0'0"W 6°48'0"W 6°36'0"W 6°24'0"W 6°12'0"W 6°0'0"W 5°48'0"W 5°36'0"W

51°4'0"N

50°56'0"N

50°48'0"N

50°40'0"N

50°32'0"N

50°24'0"N

South of Celtic Deep

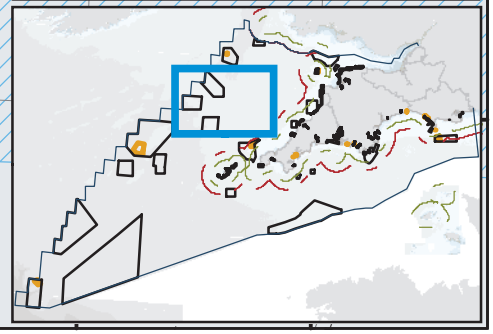
North-East of Haig Fras

East of Haig Fras

Map Legend

- Recommended MCZ (rMCZ)
- Charted wrecks
- Power and telecommunications cables (KISCA)
- Trevose Box

This map series contains data from a variety of sources including the UKHO, the Environment Agency, and The Crown Estate. A full list and a comprehensive legend can be found in the appendices of the Finding Sanctuary final report.



II.3.8 North-East of Haig Fras rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	**Long**	**Lat**	**Long**
50.7498	-7.0229	50° 44' 59'' N	7° 1' 22'' W

***Site surface area*:** 463.72 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: The western and northern boundaries of this site align with the UK Continental Shelf Limit. The site is a rectangle consisting of simple N-S and E-W lines, in line with the ENG. The eastern part of the site overlaps with the Trevose Box.

Sites to which the site is related: The North-East of Haig Fras rMCZ neighbours Greater Haig Fras rMCZ (approx. 22km to the south-west), East of Haig Fras rMCZ which is approx 9km to the south-east and South of Celtic Deep rMCZ which is approx 12km to the north-east.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM30N).

Features proposed for designation within North-east of Haig Fras rMCZ

Table II.3.8a Draft conservation objectives for North-East of Haig Fras rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Subtidal coarse sediment	maintain
Subtidal mixed sediments	recover
Subtidal mud	recover
Subtidal sand	maintain

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.8b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Subtidal coarse sediment	56.34	0.2%	1
Subtidal sand	190.83	0.6%	1
Subtidal mud	192.33	3.1%	1
Subtidal mixed sediments	24.01	0.7%	1

Table II.3.8c ***FOCI habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	381.87			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

This site is located on a section of continental shelf. The depth is between 50 and 100m, with some sections dipping below the 100m depth contour. The seabed is characterised by a range of sediments including subtidal sand, subtidal coarse sediment, subtidal mixed sediment and subtidal mud. The site has been included in the network in order to meet ENG criteria for broad-scale habitats. The south-eastern corner of the site is approximately 100km to the north-west of the Land's End peninsula.

Detailed site description

Wilson *et al*. (2001) sampled benthic biodiversity in the area but no exact location was given. During the period 2000–2006, Ellis *et al*. (2007a) carried out approximately 150 tows with a 2m-beam trawl during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters. The study described the spatial distribution of the epibenthic fauna in the area around North-East of Haig Fras.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved.** This assumption applies to all activities. Table II.3.8d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.8e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.8d Specific assumptions and implications relating to North-East of Haig Fras rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.

Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may ned to be a limit on the amount of static gear used in the area. Activity not taking place / not taking	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.)

place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore. Aviation Danger Area likely to exclude wind development.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o
Pelagic trawls will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc. o Potential cable route for marine renewables to access resource.

The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o One active telecoms cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.8e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	**Potential Management**
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in over specific BSH/FOCI. These are: subtidal coarse sediment, subtidal mud, subtidal mixed sediment. Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site, others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
    - The area has been highlighted through a Marxan analysis as an area of lower than average fishing utility.
    - This area would impact on the fishing industry. However, the area included in the developing network configuration has less of an impact than the other building blocks that were previously drawn in the surrounding area.
    - This site is important to almost twenty fishing vessels from South Normandy.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

The area is used by non-UK fishermen, especially French and Belgian. Commercial fishing representatives from South Normandy do not support this site (NCS comments). Other sectors have voiced relatively little concern about this site.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Garrard (1977).

Site map series

On the following pages there are two maps of this site.

- The first map (FR_016a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM30N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_016b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.8b, data sources are indicated in the table.
- Most rMCZ site reports contain a map showing socio-economic datasets. This one does not, as there is limited human activity mapped in the site (except for fisheries information, which is included in the interactive PDF maps supplied with the additional materials listed in appendix 14). Cables running through this site, and the Trevose Box, are shown on map FR_015c in the East of Haig Fras rMCZ site report.
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_016a

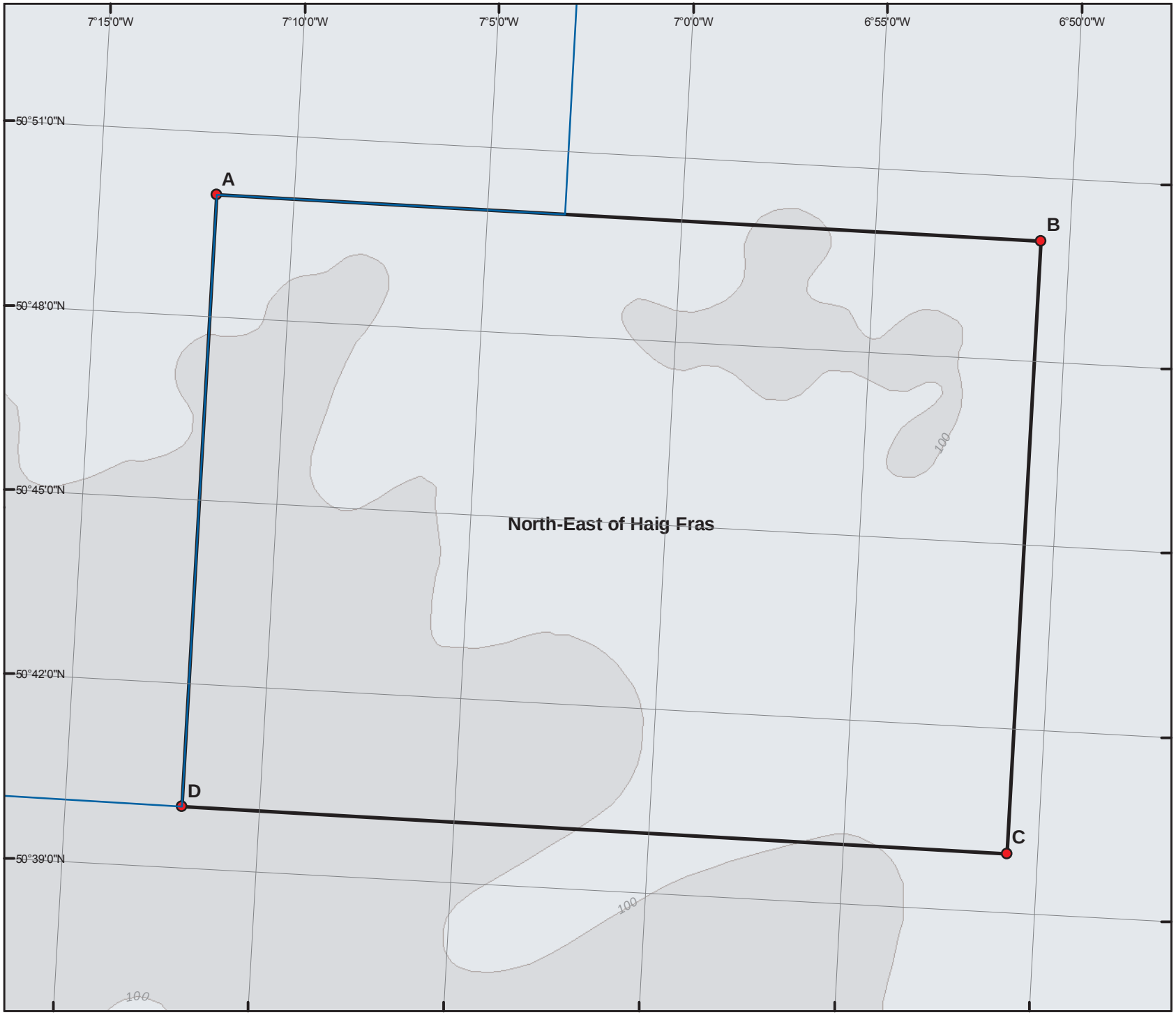
Version:25Aug11

North-East of Haig Fras rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 2 4 8 km N

FINDING SANCTUARY



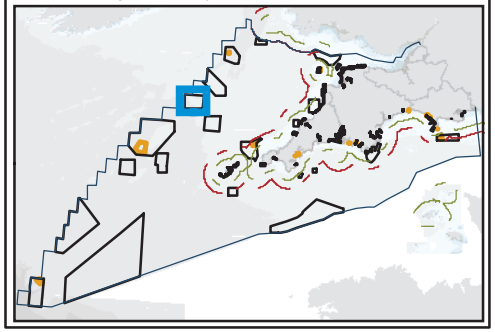
Lat/Long Co-ordinates (WGS84)

	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	50.8333	-7.2000	50° 49' 59" N	7° 11' 59" W
B	50.8330	-6.8453	50° 49' 58" N	6° 50' 43" W
C	50.6661	-6.8463	50° 39' 58" N	6° 50' 46" W
D	50.6667	-7.2000	50° 40' 0" N	7° 11' 59" W

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_016b

Version:30Aug11

North-East of Haig Fras rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 3.5 7 km N

FINDING SANCTUARY

7°15'0"W 7°10'0"W 7°5'0"W 7°0'0"W 6°55'0"W 6°50'0"W 6°45'0"W

50°51'0"N

50°48'0"N

50°45'0"N

50°42'0"N

50°39'0"N

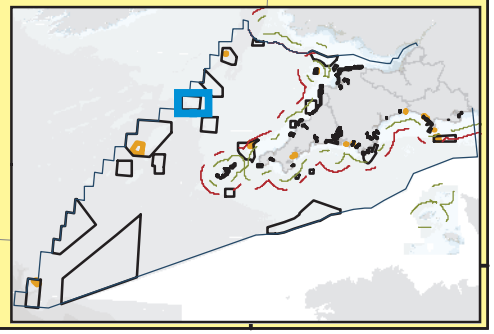
North-East of Haig Fras

Map Legend

UK Continental Shelf Limit

Recommended MCZ (rMCZ)

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



II.3.9 South of Celtic Deep rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	**Long**	**Lat**	**Long**
50.9608	-6.6359	50° 57' 38'' N	6° 38' 9'' W

***Site surface area*:** 552.4 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: The western boundary of this rMCZ aligns with the UK Continental Shelf Limit. The site has an arrow shape pointing south-east, with straight N-S and E-W lines making up the tip. This is a simplification of a previous complex outline, in line with ENG guidelines. The southern part of the site overlaps with the Trevose Box.

Sites to which the site is related: The South of Celtic Deep rMCZ neighbours North-east of Haig Fras rMCZ which is approx. 12km to the south-west, East of Haig Fras rMCZ which is approx 27km to the south and Celtic Deep rMCZ (with the Celtic Deep recommended reference area) approx 25km to the north-east.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM30N).

Features proposed for designation within South of Celtic Deep rMCZ

Table II.3.9a Draft conservation objectives for the South of Celtic Deep rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Subtidal coarse sediment	recover
Subtidal mixed sediments	recover
Subtidal sand	recover

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.9b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Subtidal coarse sediment	308.06	1.1%	1
Subtidal sand	193.47	0.6%	1
Subtidal mud	4.21	<0.1%	1
Subtidal mixed sediments	46.67	1.3%	1

Table II.3.9c ***FOCI habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	249.03			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The south-eastern tip of the site is approximately 90km to the north-west of the Land's End peninsula. The site is within the 50-100m depth range, with two small areas dipping beneath the 100m contour. The seafloor is characterised by coarse sediment and sand, with some mixed sediment present. The site has been included in the network in order to meet ENG criteria on broad-scale habitat.

Detailed site description

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

During April and May 1993, and in February and May 1994, Rees *et al*. (1999) collected samples of the benthic macrofauna from MAFF research vessels. At each location, five sediment samples for macrofauna analysis were collected using a 0.1 m2 day grab from the central point of a 500 m grid of 9 stations, the latter being sampled for contaminant analyses only. Wilson *et al*. (2001) sampled benthic biodiversity in the area, but no specific location was given.
During the period 2000–2006, Ellis *et al*. (2007a) carried out approximately 150 tows with a 2m-beam trawl during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters. The study described the spatial distribution of the epibenthic fauna.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved.** This assumption applies to all activities. Table II.3.9d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.9e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.9d Specific assumptions and implications relating to South of Celtic Deep rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.

Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may ned to be a limit on the amount of static gear used in the area.	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.)

Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore. Aviation Danger Area likely to exclude wind development.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o
Pelagic trawls will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc.

The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o One active and two inactive telecoms cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel - 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.9e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	Potential Management
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site, others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
    - The area has been highlighted through a Marxan analysis as an area of lower than average fishing utility.
    - This site provides essential fishing grounds or economic viability to fishing vessels from Brittany (pelagic and bottom trawlers, netters and potters) and would have massive economic impacts on the Belgian fishing fleet.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

The area is used by non-UK fishermen, especially French and Belgian. Commercial fishing representatives from Brittany and Belgium do not support this site (NCS comments). The southern part of this rMCZ is less contentious that other sites of similar broad-scale habitat. Other sectors have voiced relatively little concern about this site.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Garrard (1977), and Robinson *et al.* (2009).

Site map series

On the following pages there are two maps of this site.

- The first map (FR_017a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM30N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_017b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.9b, data sources are indicated in the table.
- Most rMCZ site reports contain a map showing socio-economic datasets. This one does not, as there is limited human activity mapped in the site (except for fisheries information, which is included in the interactive PDF maps supplied with the additional materials listed in appendix 14). Cables running through this site, and the Trevose Box, are shown on map FR_015c, in the East of Haig Fras rMCZ site report.
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_017a

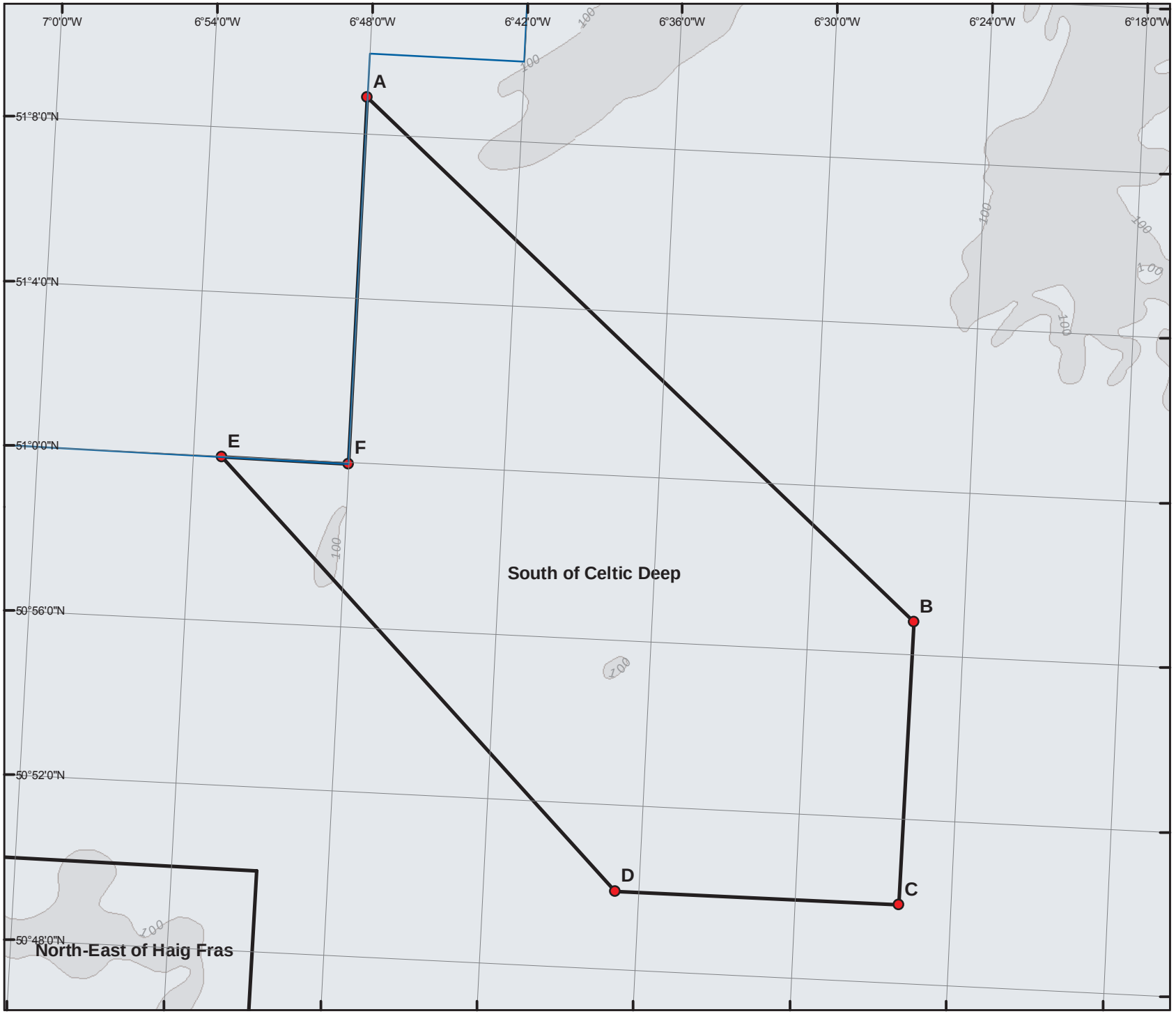
Version:25Aug11

South of Celtic Deep rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 3 6 12 km N

FINDING SANCTUARY



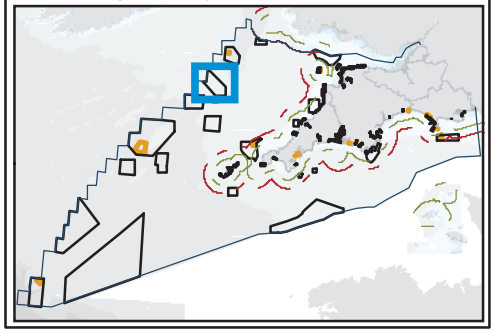
Lat/Long Co-ordinates (WGS84)

	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	51.1487	-6.8000	51° 8' 55" N	6° 47' 59" W
B	50.9470	-6.4317	50° 56' 49" N	6° 25' 54" W
C	50.8323	-6.4332	50° 49' 56" N	6° 25' 59" W
D	50.8323	-6.6151	50° 49' 56" N	6° 36' 54" W
E	51.0001	-6.8815	51° 0' 0" N	6° 52' 53" W
F	51.0000	-6.8000	50° 59' 59" N	6° 47' 59" W

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_017b

Version:31Aug11

South of Celtic Deep rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 5 10 km

N

FINDING SANCTUARY

7°0'0"W 6°54'0"W 6°48'0"W 6°42'0"W 6°36'0"W 6°30'0"W 6°24'0"W 6°18'0"W 6°12'0"W

51°8'0"N

51°4'0"N

51°0'0"N

50°56'0"N

50°52'0"N

50°48'0"N

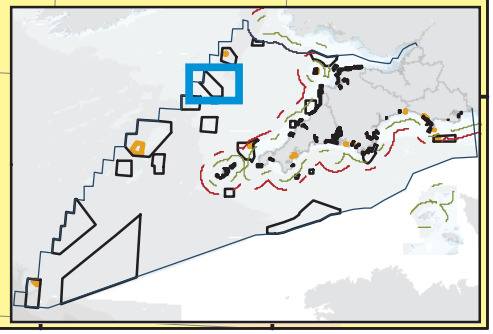
South of Celtic Deep

North-East of Haig Fras

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



II.3.10 Celtic Deep rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	**Long**	**Lat**	**Long**
51.3265	-6.3507	51° 19' 35'' N	6° 21' 2'' W

***Site surface area*:** 347.79 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: The boundary of the Celtic Deep rMCZ has been drawn using simple, straight lines, around a portion of the Celtic Deep area containing subtidal mud and mud habitat in deep water FOCI records.

Sites to which the site is related: The Celtic Deep rMCZ contains the Celtic Deep recommended reference area. The site neighbours the South of Celtic Deep rMCZ, which lies approximately 25km to the south-west, and East of Celtic Deep rMCZ, which lies approximately 28km to the north-east.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM30N).

Features proposed for designation within Celtic Deep rMCZ

Table II.3.10a Draft conservation objectives for the Celtic Deep rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Subtidal mud	Recover
Mud habitats in deep water	Recover

The inclusion of conservation objectives for seabirds and common dolphins on the conservation objective feature list for this site was discussed at length at the Joint Working Group meeting in May 2011, in the full understanding of SAP feedback following progress report 3, and the JNCC's position that they would not support conservation objectives for mobile species in offshore rMCZs. The JWG could not reach a conclusion on the matter.

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.10b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Subtidal mud	347.79	5.5%	1

Table II.3.10c ***FOCI habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Mud habitats in deep water	127.25	13		1
Subtidal sands and gravels[1]	92.66			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The southern tip of the site is approximately 112 km to the north-west of Trevose Head, and the northern tip is approximately 84km from the Pembrokeshire coast in Wales. The depth is largely between 100m and 200m, constituting a depression on the seafloor which in the surrounding area is shallower than 100m. The seafloor is characterised by subtidal mud habitat, and the Celtic Deep rMCZ is the only offshore area within our study region where the 'mud habitats in deep water' FOCI has been recorded. In addition, this area is an area where frontal systems occur during the summer months, indicating high productivity. Offshore bird observation data indicates this as an important aggregation area for a number of seabird species year-round. The area is of importance for common dolphins.

Detailed site description

The most extensive published survey of the benthic fauna of the Celtic sea is that undertaken in 1974 and 1975 by the Field Studies Council Oil Pollution Research Unit (Hartley & Dicks 1977; Hartley 1979). The fauna at most sites was typical of a 'deep *Venus* community' as described by Mackie (1990). At the edge of the Celtic Deep, the communities were typical of a 'boreal deep mud association' and included the brittlestars *Amphiura chiajei* and *Amphiura filiformis*, the bivalves *Nucula sulcata*, *Nucula tenuis*, *Thyasira flexuosa* and *Abra nitida*, and polychaetes *Myriochele heeri*, *Lagis* (now *Pectinaria*) *koreni* and *Amphicteis gunneri* (Hiscock, 1998).

During April and May 1993, and in February and May 1994, Rees *et al*. (1999) took samples of the benthic macrofauna from the Celtic Deep. At each location, five sediment samples for macrofauna analysis were collected using a 0.1 m^2 day grab from the central point of a 500 m grid of 9 stations, the latter being sampled for contaminant analyses only.

Marret & Scourse (2003) took surface sediments from seven stations located in the seasonally stratified, frontal and mixed water regions in the Celtic and Irish seas. They analysed them for their dinoflagellate cyst assemblages and dinosterol content. Sediment samples were collected at six stations in the Celtic Deep and one station in Tremadog Bay (muddy hollow) during nine cruises onboard the RV Prince Madog during 1999 and 2000.

Wilson *et al*. (2001) sampled benthic biodiversity in the area, but the exact location was not specified.

Schratzberger *et al.* (2004) studied the diversity and structure of meiobenthic nematodes and macrobenthic infauna from the subtidal Celtic Deep in relation to a number of measured environmental variables. Schratzberger *et al.* (2008) surveyed four stations at the Celtic deep for nematode and polychaete assemblages in muddy sediment. Robinson *et al.* (2011) predicted the distribution of biotopes in the Irish Sea which covered the area of the Celtic Deep and East of Celtic Deep. The abundance of harpacticoid copepods was significantly lower in the Celtic Deep than off the Tyne, off the Humber and in Dundrum Bay. Diversity of harpacticoid copepod assemblages was higher in the Celtic Deep compared with most other stations (Schratzberger *et al*. 2000).

Rogers *et al*. (2008) investigated two sample sites on offshore mud sediments in the Celtic Deep and North-western Irish Sea, and two sites on sand sediments in the Bristol Channel and Outer Carmarthen Bay during July 2004 and 2005.

During the period 2000 to 2006, Ellis *et al*. (2007a) carried out approximately 150 tows with a 2m-beam trawl during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters. The study described the spatial distribution of the epibenthic fauna.

In July 2004 and 2005 respectively Rogers *et al*. (2008) took sediment samples (sand habitats), benthic fauna and demersal fish in the Celtic Deep. The deep water (78–110 m) sediments of mud habitat sites in the Celtic Deep were thought to be influenced by the relatively low levels of tidal stress.

Field sampling was undertaken during four cruises from 2004–2007 by Ellis *et al*. (2007b) with each cruise targeting specific habitat types. Sampling included the mud habitat of the Celtic Deep and the shell-gravel habitat of the western English Channel.

Between June and November 2004–2006, line-transect surveys were conducted by Sea Watch Foundation over the Celtic Deep between SE Ireland and west Wales, in order to generate absolute abundance estimates for common dolphin (Evans *et al*. 2007). From a total of 2900km of line transect effort; there were 222 encounters of common dolphins (Evans *et al*. 2007). One of the largest ever known gatherings of Fin Whales in British waters was recently observed in the Celtic Deep during a seabird and cetacean research cruise by the Research Vessel *Cefas Endeavour* in May 2011 (see weblinks here[20] and here[21]).

[20] http://www.marine-life.org.uk/fin-whale-discovery-in-celtic-sea-%28020611%29
[21] http://wildlifenews.co.uk/2011/21-giant-fin-whales-spotted-off-coast-of-britain/

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved.** This assumption applies to all activities. Table II.3.10d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.10e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.10d Specific assumptions and implications relating to Celtic Deep rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Northern Irish prawn vessels and numerous European activities occur in this site. o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.

Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may ned to be a limit on the amount of static gear used in the area.	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that

Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave resource area but unlikely to be developed in short or medium term due to distance from shore. Aviation Danger Area likely to exclude wind development.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o
Pelagic longlining, pelagic netting and pelagic trawls will be allowed to continue (for static gear, see previous). Mobile species (seabirds and cetaceans) not considered as features needing protection when the vulnerability assessment was carried out with JNCC specialists.	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc. o One proposed power cable.

The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o Four active and three inactive telecoms cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.10e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	Potential Management
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site; others were more generic comments which the project team consider to be relevant to this site.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.

- *Pelagic gear*
    - As this site had previously been considered to provide protection for pelagic and mobile species, assumptions had been made that netting and longlining would not be permitted, and pelagic trawls would be permitted, but with mitigation against bycatch for seabirds.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

This rMCZ is located in a productive fishing area which is used by UK and non-UK vessels. The area supports a fishery for *Nephrops norvegicus*. As a result, this site is controversial with offshore fishing representatives. The reason for its inclusion in the network is the fact that it is the only location where reliable records of the FOCI habitat 'mud habitats in deep water' are located, and the area

was therefore recognised as unique and important for meeting the ENG. Conservation representatives have highlighted the additional ecological importance of the area, because of its high productivity and pelagic interest (there was discussion about adding draft conservation objectives for non-ENG listed mobile species). There is therefore good support for this site from conservationists. Because of the distance from shore, other sectors have voiced relatively few immediate concerns over the site, compared to other sites in the network.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Brown *et al.* (2003), Farrow and Fyfe (1988), Garrard (1977), Mackie *et al.* (1997), Pollock *et al.* (1997), and Scott *et al.* (2003).

Site map series

On the following pages there are three maps of this site.

- The first map (FR_018a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM30N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_018b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in tables II.3.10b and II.3.10c, data sources are indicated in the tables.
- The third map (FR_018c) shows KISCA cable routes and some other human activity information. It is zoomed out to include East of Celtic Deep rMCZ. For spatial data showing the distribution of fishing effort, please refer to the interactive PDF maps supplied with the additional materials (see appendix 14).
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_018a

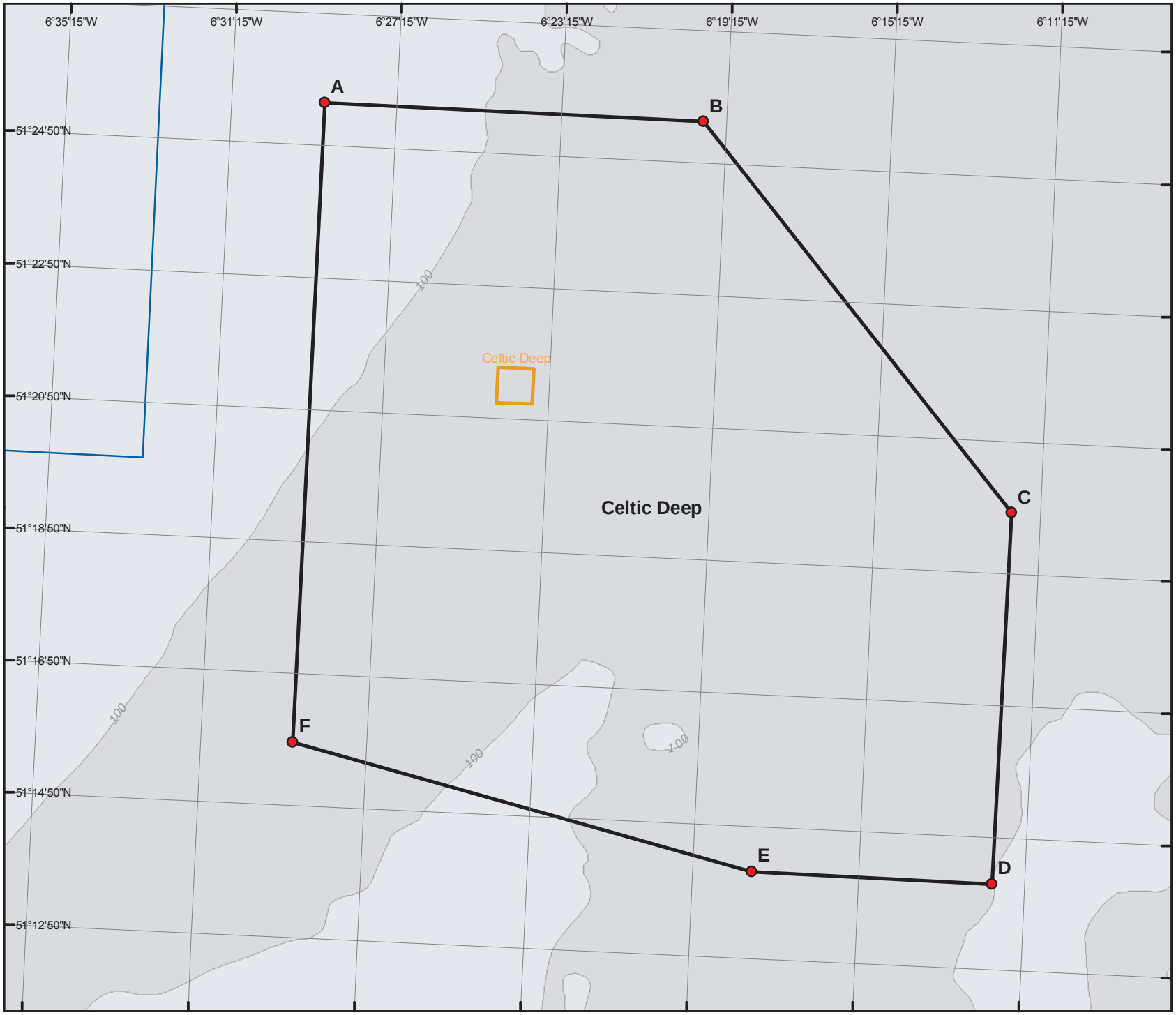
Version:26Aug11

Celtic Deep rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 2 4 8 km N

FINDING SANCTUARY



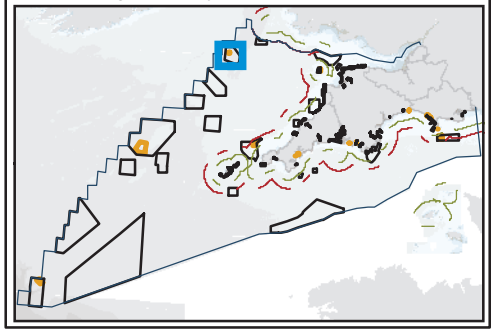
Lat/Long Co-ordinates (WGS84)

	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	51.4250	-6.4831	51° 25' 30" N	6° 28' 59" W
B	51.4246	-6.3301	51° 25' 28" N	6° 19' 48" W
C	51.3294	-6.1991	51° 19' 45" N	6° 11' 56" W
D	51.2356	-6.2004	51° 14' 8" N	6° 12' 1" W
E	51.2361	-6.2971	51° 14' 9" N	6° 17' 49" W
F	51.2634	-6.4840	51° 15' 48" N	6° 29' 2" W

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_018b

Version:31Aug11

Celtic Deep rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 3.5 7 km

N

FINDING SANCTUARY

6°36'0"W 6°32'0"W 6°28'0"W 6°24'0"W 6°20'0"W 6°16'0"W 6°12'0"W 6°8'0"W 6°4'0"W

51°25'0"N

51°22'30"N

51°20'0"N

51°17'30"N

51°15'0"N

51°12'30"N

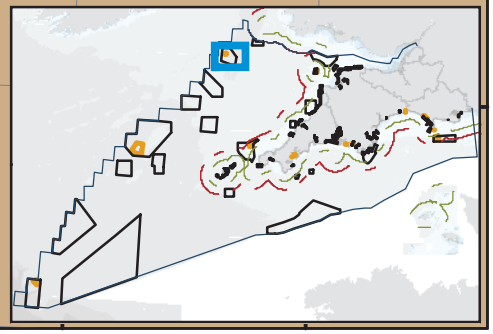
Celtic Deep

Celtic Deep

Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



Map: FR_018c

Version:5Sep11

Celtic Deep and East of Celtic Deep rMCZs

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with socio-economic information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 3.5 7 14 km N

FINDING SANCTUARY

6°31'15"W 6°23'15"W 6°15'15"W 6°7'15"W 5°59'15"W 5°51'15"W 5°43'15"W 5°35'15"W 5°27'15"W

51°35'50"N 51°30'50"N 51°25'50"N 51°20'50"N 51°15'50"N 51°10'50"N

East of Celtic Deep

Celtic Deep

Celtic Deep

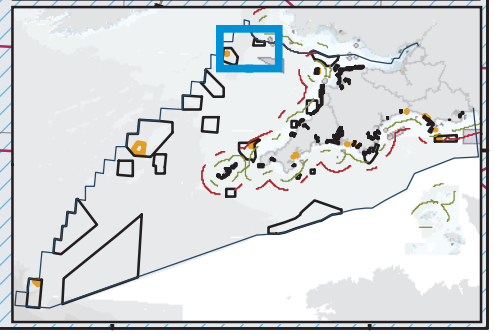
Map Legend

- UK Continental Shelf Limit
- Recommended MCZ (rMCZ)
- Recommended reference area
- Charted wrecks
- Power and telecommunications cables (KISCA)
- Trevose Box

Milford Haven dredge disposal sites

- Open
- Proposed extension

This map series contains data from a variety of sources including the UKHO, the Environment Agency, and The Crown Estate. A full list and a comprehensive legend can be found in the appendices of the Finding Sanctuary final report.



II.3.11 East of Celtic Deep rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	**Long**	**Lat**	**Long**
51.4980	-5.7990	51° 29' 52'' N	5° 47' 56'' W

***Site surface area*:** 94.9 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: The northern boundary of this site abuts the 12nm limit off south Wales. Rather than tracing the curved boundary of the 12nm limit, the site has been squared off with straight north-south and east-west boundary sections.

Sites to which the site is related: The East of Celtic Deep rMCZ is approx 28km to the north-east of the Celtic Deep rMCZ. The Pembrokeshire marine SAC is approx. 14km to the north.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM30N).

Features proposed for designation within East of Celtic Deep rMCZ

Table II.3.11a Draft conservation objectives for the East of Celtic Deep rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Subtidal sand	recover
Subtidal mud	recover
Subtidal coarse sediment	recover

The inclusion of conservation objectives for seabirds and cetaceans on the conservation objective feature list for this site was discussed at length at the Joint Working Group meeting in May 2011, in the full understanding of SAP feedback following progress report 3, and the JNCC's position that they would not support conservation objectives for mobile species in offshore rMCZs. The JWG could not reach a conclusion on the matter.

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

*Table II.3.11b **Subtidal broad-scale habitats** recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Subtidal coarse sediment	0.71	<0.1%	1
Subtidal sand	84.01	0.3%	1
Subtidal mud	10.18	0.2%	1

*Table II.3.11c **FOCI habitats** recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	94.90			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The site is approximately 40km south of the Pembrokeshire coast in Wales. The depth is within the 50m to 100m range, with the western edge dipping below the 100m depth contour. The seabed is characterised by subtidal sand, with a patch of mud. The site was included in the network because of its contribution to ENG criteria to broad-scale habitat targets, and its added ecological importance. It is in an area where frontal systems occur during the summer months, indicating high productivity. Offshore bird observation data indicates this as an important aggregation area for a number of seabird species year-round; and is of particular importance for wintering birds.

Detailed site description

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

Wilson *et al*. (2001) sampled benthic biodiversity in the area, but the exact location is not defined. Robinson *et al.* (2011) predicted the distribution of biotopes in the Irish Sea which covered the area of the Celtic Deep and East of Celtic Deep.
During the period 2000–2006, Ellis *et al*. (2007a) carried out approximately 150 tows with a 2m-beam trawl during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters. The study described the spatial distribution of the epibenthic fauna.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved.** This assumption applies to all activities. Table II.3.11d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process. The assumptions recorded for this site changed significantly through the planning, as the pre-cursor to this site was discussed as a site where only seabirds would be protected, not the seafloor.

Following that, table II.3.11e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.11d Specific assumptions and implications relating to East of Celtic Deep rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Northern Irish prawn vessels and numerous european activities occur in this site. o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.

	Given this assumption there are still the following concerns: o The westward shift of the site from its previous location has implicated higher levels of fishing activity.
Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications**: o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may need to be a limit on the amount of static gear used in the area. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind energy resource but unlikely to be developed in short term. o Medium wave energy resource but unlikely to be developed in short term.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings Pelagic trawls will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o **Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications**: o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc.

The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o Two active telecoms cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications**: o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications**: o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.11e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	**Potential Management**
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site, others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
  - This site is located in an area of high fishing activity.

- *Mobile bottom gear*
  - Seasonal closures are an inappropriate measure for benthic conservation.

- *Pelagic gear*
  - As this site had previously been considered to provide protection for pelagic and mobile species, assumptions had been made that netting and longlining would not

be permitted, and pelagic trawls would be permitted, but with mitigation against bycatch for seabirds.

- *Disposal*
  - This site originally intersected with an area adjacent to the Milford Haven disposal site which was likely to be impacted by deposition and so it was agreed to move the site west to avoid mud habitat and the Milford Haven disposal site.

- *General benefits of MCZs*
  - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
    - Fisheries spill-over.
    - Improvements for the local economy.
    - Education opportunities.
    - Benefits to science.
    - Focus for voluntary groups.
    - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
    - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
  - There are two main types of monitoring which will need to take place within rMCZs:
    - Monitoring the activities within a site and the various levels at which they are occurring.
    - Monitoring the ENG features for changes in condition.

- *Management measures*
  - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
  - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

The site is controversial with offshore fishing interests. It was moved east from the location of its pre-cursor site, in order to avoid impacts from or conflicts with a disposal site for dredged materials from Milford Haven. There are plans to expand the disposal site. The move meant the site had better support from a cross-section of stakeholders who were concerned about the disposal site, but it moved the site into an area that is fished more heavily.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data, MESH, MB102, and Environment Agency intertidal habitat data. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Garrard (1977).

Site map series

On the following pages there are two maps of this site.

- The first map (FR_019a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM30N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_019b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.11b, data sources are indicated in the table.
- Most rMCZ site reports contain a map showing socio-economic datasets. This one does not, as there is limited human activity mapped in the site (except for fisheries information, which is included in the interactive PDF maps supplied with the additional materials listed in appendix 14). Cables running through this site, and the current and planned Milford Haven dredge disposal site to the east of this rMCZ, are shown on map FR_018c, in the Celtic Deep rMCZ site report.
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_019a

Version:30Aug11

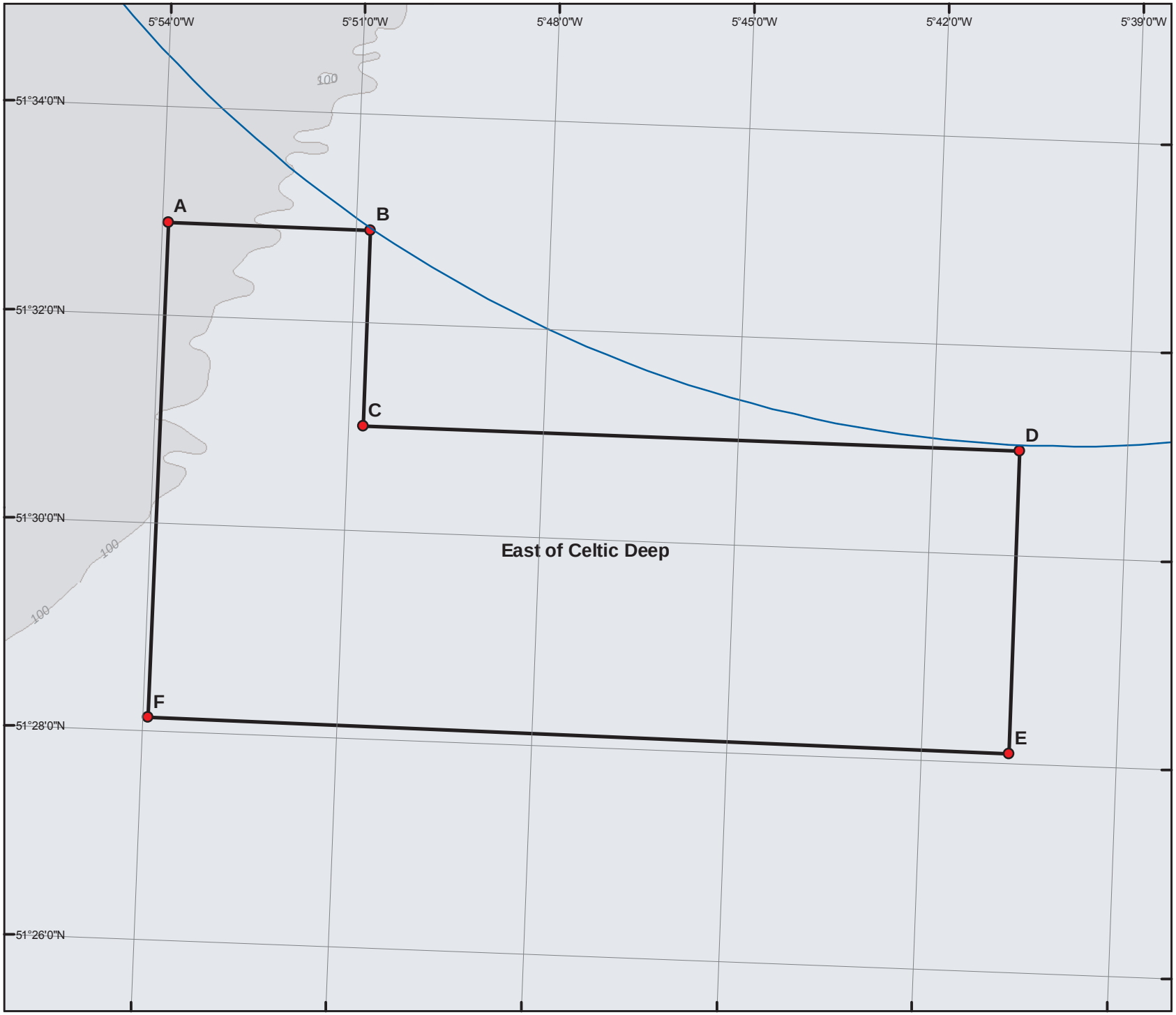
East of Celtic Deep rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 1 2 4 km

N

FINDING SANCTUARY



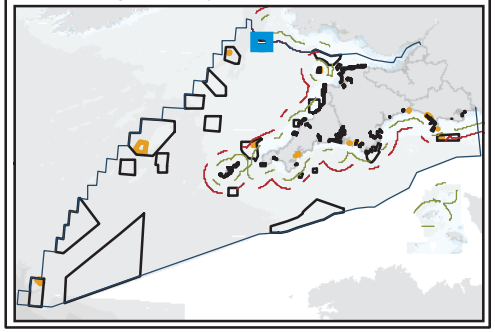
Lat/Long Co-ordinates (WGS84)

	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	51.5483	-5.8983	51° 32' 53" N	5° 53' 53" W
B	51.5482	-5.8463	51° 32' 53" N	5° 50' 46" W
C	51.5168	-5.8463	51° 31' 0" N	5° 50' 46" W
D	51.5168	-5.6776	51° 31' 0" N	5° 40' 39" W
E	51.4683	-5.6775	51° 28' 5" N	5° 40' 39" W
F	51.4689	-5.8985	51° 28' 7" N	5° 53' 54" W

Map Legend

- Project boundary
- Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_019b

Version:31Aug11

East of Celtic Deep rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 1 2 4 km

N

FINDING SANCTUARY

51°34'0"N
51°32'0"N
51°30'0"N
51°28'0"N
51°26'0"N

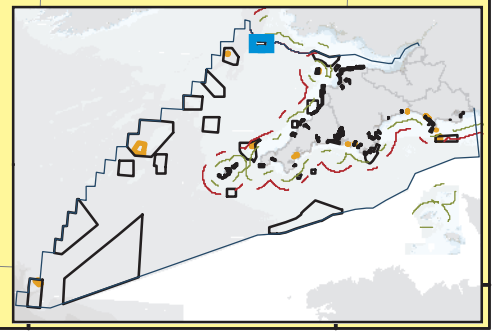
5°54'0"W
5°51'0"W
5°48'0"W
5°45'0"W
5°42'0"W
5°39'0"W
5°36'0"W

East of Celtic Deep

Map Legend

- Project boundary
- Recommended MCZ (rMCZ)

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



II.3.12 Western Channel rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	**Long**	**Lat**	**Long**
49.4186	-4.8071	49° 25' 6'' N	4° 48' 25'' W

***Site surface area*:** 1,613.5 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: On the boundary between Region III: Celtic Waters, and Region II: Greater North Sea

Site boundary: The southern boundary of the site follows the UK Continental Shelf Limit. The other boundaries have been drawn to include an area of higher than average benthic biodiversity, to avoid overlap with the Mid-Channel Potting Agreement area to the east, and to maximise overlap with busy shipping areas in the Channel.

Sites to which the site is related: The Western Channel rMCZ does not overlap with any existing protected areas. The nearest other rMCZ is the South of Falmouth rMCZ, approximately 36km to the north.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM30N).

Features proposed for designation within Western Channel rMCZ

Table II.3.12a Draft conservation objectives for the Western Channel rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Subtidal coarse sediment	recover
Subtidal mixed sediments	recover
Moderate energy circalittoral rock	recover

The inclusion of conservation objectives for seabirds and common dolphins on the conservation objective feature list for this site was discussed at length at the Joint Working Group meeting in May 2011, in the full understanding of SAP feedback following progress report 3, and the JNCC's position that they would not support conservation objectives for mobile species in offshore rMCZs. The JWG could not reach a conclusion on the matter.

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within

the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

*Table II.3.12b **Subtidal broad-scale habitats** recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Moderate energy circalittoral rock	676.23	3.6%	1
Subtidal coarse sediment	756.20	2.6%	1, 2
Subtidal mixed sediments	175.42	4.9%	1

*Table II.3.12c **FOCI habitats** recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	1038.75			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

The northern tip of the Western Channel rMCZ is located approximately 54km to the south-east of the Lizard Peninsula. The site depth of the seabed is in the 50-100m range, with the western end of the site dipping below the 100m contour. The seabed habitat is characterised by coarse sediment, rock and mixed sediment. There is anecdotal evidence (supported by VMS data showing bottom-towed fishing gears being used) that the rock habitat here consists of cobbles, not bedrock. The area is of additional ecological importance, in that it is an area of productive frontal systems, of importance for seabirds and cetaceans (reflected in the data mapped on maps FR_081).

Detailed site description

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

Wilson *et al*. (2001) sampled benthic biodiversity in the area, but the exact location is not defined. Field sampling was undertaken during four cruises from 2004–2007 by Ellis *et al*. (2007b) with each cruise targeting specific habitat types. Sampling examined included the mud habitat of the Celtic Deep and the shell-gravel habitat of the western English Channel.

During the period 2000–2006, Ellis *et al.* (2007a) carried out approximately 150 tows with a 2m-beam trawl during groundfish surveys of the South West offshore area. Catches along the edge of the continental shelf (130–350 m deep) were characterised by large numbers of the anemone *Actinauge richardi*, with the hermit crab *Pagurus prideaux* dominating on coarse grounds in shallower waters. The study described the spatial distribution of the epibenthic fauna.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved.** This assumption applies to all activities. Table II.3.12d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.12e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.12d Specific assumptions and implications relating to Western Channel rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot).

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Implications from loss of ground around previous 3 sites, which has increased impacts to fleet. o The South West Fishing Industry MCZ planning group has concerns that the new proposed Western Channel site has increased in area compared to the 3 previously proposed sites. o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity.

Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may need to be a limit on the amount of static gear used in the area (in particular, static gear which impacts on the sea floor). Current levels are assumed to be ok. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o There are important potting grounds in the Western Channel o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the assumption cannot apply to all sites in the network, although it can apply to any given site on its own.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor

	confidence in renewables activities. o Increased competition for sea space with other sea users. o Good wind and wave resource area but unlikely to be developed in short or medium term.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	Direct implications: o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o
Pelagic trawls will be permitted. Mobile species (seabirds and cetaceans) not considered as features needing protection when the vulnerability assessment was carried out with JNCC specialists	**Direct implications:** o
The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc.

The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o Three active and fifteen inactive telecoms cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.12d VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	**Potential Management**
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site, others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
    - This site is important to almost twenty fishing vessels from South Normandy and would have massive economic impacts on the Belgian fishing fleet.
    - This is an area of high fishing activity and after the original three sites were combined into one there are further implications in that there are no trawl corridors for boats to navigate through and so boats will have to lift their gear to pass through the site.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.
    - This site is used by vessels from Brixham, Plymouth, Newlyn for beam trawling and scallop dredging. It is also used by French trawlers and Belgian beam trawlers and is a commercially productive site.

- *Pelagic gear*
    - As this site had previously been considered to provide protection for pelagic and mobile species, assumptions had been made that netting and longlining would not be permitted, and pelagic trawls would be permitted, but with mitigation against bycatch for seabirds.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
    - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

This site is located in a productive fishing area, and an area of additional ecological importance (pelagic productivity, seasonal fronts). It is supported by conservationists, and forms an important contribution to the ENG in terms of connectivity and its additional ecological importance. The elongated shaping of the site was an attempt to align the site with shipping lanes in the Channel, in order to minimise impacts on fishermen. The boundary was also adjusted to avoid overlap with the Mid Channel Potting Agreement areas, following feedback from fishing representatives. Nevertheless, the site remains controversial with offshore fishing interests.

During earlier discussions in the planning process, there had been some provisional acceptance from offshore fishing representatives that a site would be needed in this area in order to meet the ENG. Three separate sites were drawn at the time, and there was a recognition from fishing representatives that efforts had been made by the group to shape and locate them to lessen negative impacts (see progress report 3).

In order to make the site boundaries manageable, the project team suggested amalgamating the three sites into a single site, with much simplified boundaries, presenting two alternative options for the Joint Working Group to discuss early in 2011. The group agreed and chose the current rMCZ, as it would be more enforceable, and make the site ecologically more viable (lower edge-to-area ratio). However, subsequently concerns about the amalgamation of the site were raised by the offshore fishing representative, who would have preferred the three separate sites, which would have had higher levels of support from fishing interests: After the original three sites were combined into one there are further implications in that there are no trawl corridors for boats to navigate through and so boats will have to lift their gear to pass through the site.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data, MESH, and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site.

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Dauvin *et al.* (1994), Garrard (1997), Holme (1966), Kaiser *et al.* (1998), Larsonner *et al.* (1982), Southward *et al.* (2005), Vallet & Dauvin (1998), and Zouhiri & Dauvin (1996).

Site map series

On the following pages there are three maps of this site.

- The first map (FR_020a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM30N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.
- The second map (FR_020b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.12b, data sources are indicated in the table.
- The third map (FR_020c) shows KISCA cable routes and some other human activity information, including areas of the Mid-Channel Potting Agreement to the east of this rMCZ. For spatial data showing the distribution of fishing effort, please refer to the interactive PDF maps supplied with the additional materials (see appendix 14).
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: SAP_020a

Version:25Aug11

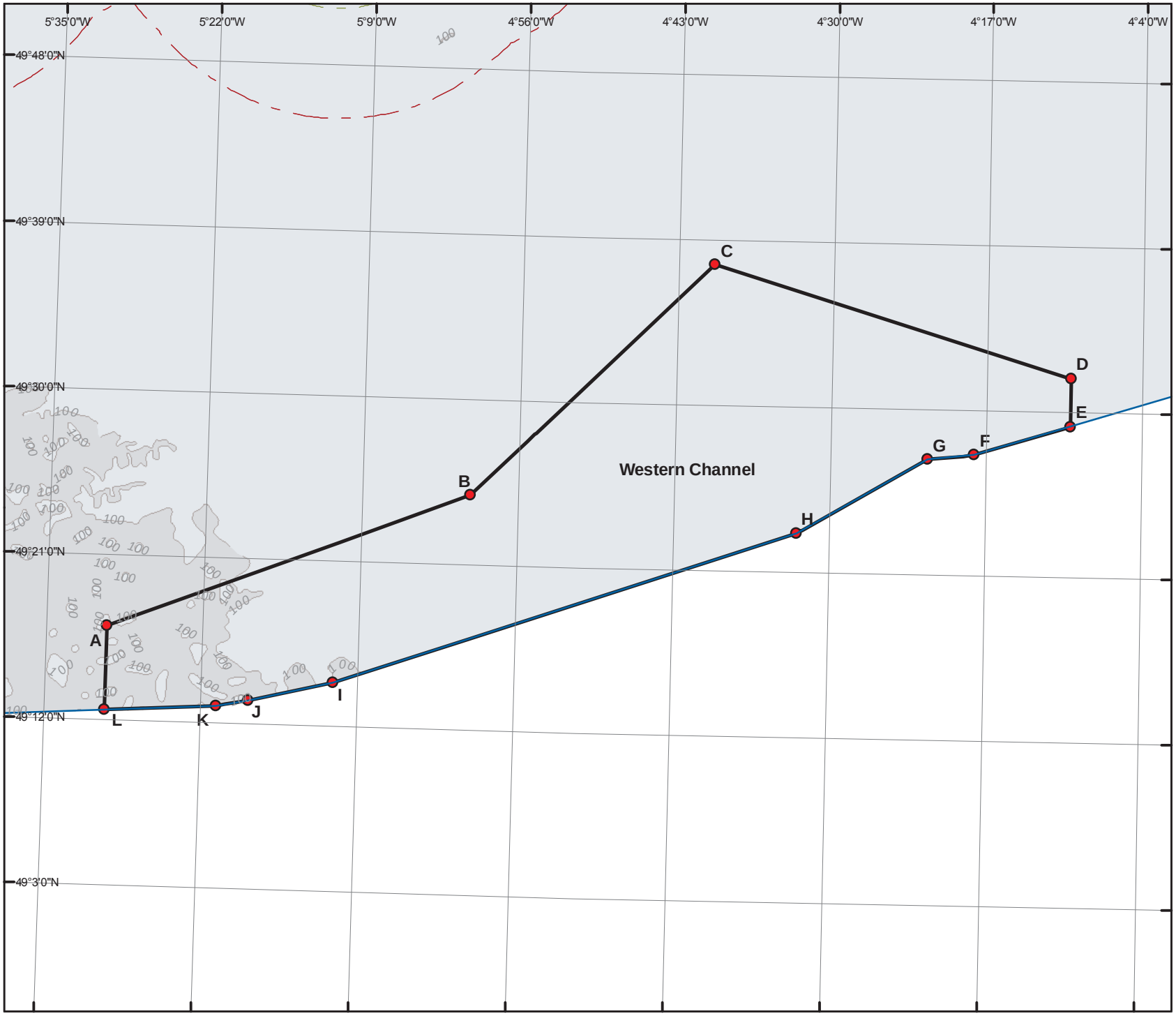
Western Channel rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 5 10 20 km

N

FINDING SANCTUARY



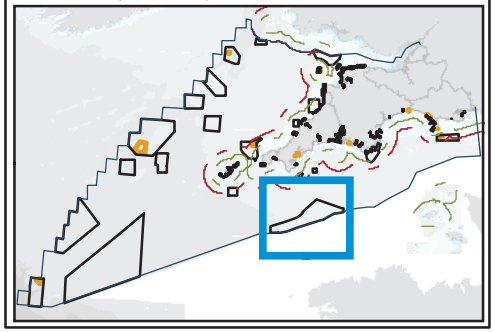
Lat/Long Co-ordinates (WGS84)

	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	49.2855	-5.5000	49° 17' 7" N	5° 29' 59" W
B	49.4141	-5.0000	49° 24' 50" N	4° 59' 59" W
C	49.6284	-4.6667	49° 37' 42" N	4° 39' 59" W
D	49.5308	-4.1667	49° 31' 51" N	4° 9' 59" W
E	49.4872	-4.1667	49° 29' 13" N	4° 9' 59" W
F	49.4601	-4.2998	49° 27' 36" N	4° 17' 59" W
G	49.4554	-4.3642	49° 27' 19" N	4° 21' 51" W
H	49.3862	-4.5456	49° 23' 10" N	4° 32' 44" W
I	49.2401	-5.1848	49° 14' 24" N	5° 11' 5" W
J	49.2218	-5.3014	49° 13' 18" N	5° 18' 5" W
K	49.2157	-5.3459	49° 12' 56" N	5° 20' 45" W
L	49.2093	-5.5000	49° 12' 33" N	5° 29' 59" W

Map Legend

- UK Continental Shelf Limit
- 12 nautical mile limit
- Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_020b

Version:14Sep11

Western Channel rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 5 10 20 km N

FINDING SANCTUARY

5°36'0"W 5°24'0"W 5°12'0"W 5°0'0"W 4°48'0"W 4°36'0"W 4°24'0"W 4°12'0"W

49°36'0"N

49°28'0"N

49°20'0"N

49°12'0"N

49°4'0"N

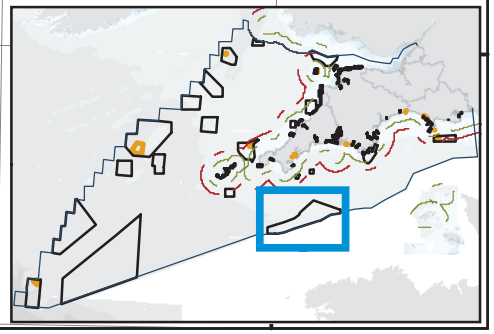
Western Channel

Map Legend

UK Continental Shelf Limit

Recommended MCZ (rMCZ)

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



Map: FR_020c

Version:6Sep11

Western Channel rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with socio-economic information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 5 10 20 km

N

FINDING SANCTUARY

5°35'0"W 5°22'0"W 5°9'0"W 4°56'0"W 4°43'0"W 4°30'0"W 4°17'0"W 4°4'0"W 3°51'0"W 3°38'0"W

49°57'0"N 49°48'0"N 49°39'0"N 49°30'0"N 49°21'0"N 49°12'0"N

Mullion Cove

Coverack

Cadgwith

South-east of Falmouth

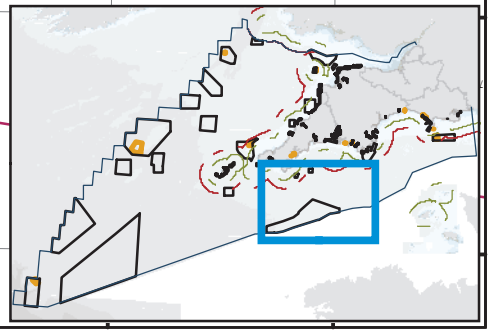
South of Falmouth

Western Channel

Map Legend

- UK Continental Shelf Limit
- 12 nautical mile limit
- Recommended MCZ (rMCZ)
- Midchannel Potting Agreement (NFFO - voluntary)
- Charted wrecks
- Power and telecommunications cables (KISCA)

This map series contains data from a variety of sources including the UKHO, the Environment Agency, and The Crown Estate. A full list and a comprehensive legend can be found in the appendices of the Finding Sanctuary final report.



II.3.13 South of the Isles of Scilly rMCZ

Basic site information

***Site centre location (datum used: ETRS89)*:**

Decimal Degrees		Degrees Minutes Seconds	
Lat	**Long**	**Lat**	**Long**
49.6902	-6.2122	49° 41' 24'' N	6° 12' 43'' W

***Site surface area*:** 132.2 km^2 (calculated in ETRS89 – LAEA)

Biogeographic region:

JNCC regional sea: Western Channel and Celtic Sea
OSPAR region: Region III: Celtic Waters

Site boundary: The boundary of this site is a simple rectangle, in line with ENG guidelines. It is bisected by the 12nm limit.

Sites to which the site is related: The South of the Isles of Scilly rMCZ neighbours the Isles of Scilly Sites rMCZ (approx 15km to the north, inside the 6nm limit), and the Isles of Scilly Complex SAC.

Maps of the site are included at the end of this site report. The main site map shows points with coordinates along the site boundary (in WGS84 UTM30N).

Features proposed for designation within South of the Isles of Scilly rMCZ

Table II.3.13a Draft conservation objectives for the South of the Isles of Scilly rMCZ. 'Maintain' = maintain in favourable condition, 'recover' = recover to favourable condition. This is an extract of the conservation objective summary tables in section II.2.6. ***The full text of the draft conservation objectives can be found in appendix 15****.*

Feature	Conservation Objective
Subtidal sand	recover
Subtidal coarse sediment	recover

The following tables show ENG-related statistics for this site, reported from spatial data available in Finding Sanctuary's GIS datasets. Greyed out rows indicate features for which GIS data exists within the site boundary, but which have not been included on the list of draft conservation objectives (the reasons are stated in table footnotes).

Table II.3.13b ***Subtidal broad-scale habitats*** *recorded in this rMCZ, based on an analysis of Finding Sanctuary's EUNIS level 3 broad-scale habitat GIS data (see appendix 8). Data sources: 1 - UKSeaMap, 2 - MESH, 3 - Environment Agency.*

Habitat	Area covered within rMCZ (km^2)	% of total in study area	Source(s)
Subtidal coarse sediment	115.21	0.4%	1
Subtidal sand	16.98	<0.1%	1

*Table II.3.13c **FOCI habitats** recorded in this rMCZ, based on an analysis of Finding Sanctuary's amalgamated GIS FOCI datasets (see appendix 8). Data sources: 1 - MB102; 2 - JNCC/ MESH Canyons survey data; 3 - ERCCIS/Isles of Scilly Wildlife Trust; 4 - DORIS.*

Habitat	Area covered (km^2)	Number of point records (total)	Number of point records (pre-1980)	Source(s)
Subtidal sands and gravels[1]	2.20			1

[1] Conservation objectives have not been included for subtidal sands and gravels as we have considered any conservation requirements met by listed broad-scale habitats.

For additional understanding on how this site is located in relation to environmental data layers, including areas of high benthic biodiversity, offshore bird aggregation areas, or areas of seasonal sea surface temperature fronts, please refer to the interactive PDF maps presented alongside this report.

Site summary

This site is located approximately 15km to the south of the Isles of Scilly. The depth is within the range of 50-100m, with the western tip dipping below the 100m contour. The site has been included in the network to meet ENG criteria for broad-scale habitats, and improve connectivity for sediment habitats. The seafloor is predominantly coarse sediment, with some patches of sand present.

Detailed site description

A literature search was carried out on this site, but as for other for non-coastal sites in the network it has proved difficult to find information associated with this specific site.

A Fisheries Science Partnership survey of anglerfish (monkfish) was carried out in September and October 2007 off the SW coast of England, south and north of the Isles of Scilly. Beam trawlers *Billy Rowney* and *Twilight III* were chartered to repeat surveys carried out in 2003–2006.

Stakeholder narrative: Assumptions and Implications

As explained in part I, the stakeholder narrative is a vital underpinning of the site recommendations. Working assumptions and implications are presented here, and additional comments are presented in the following section.

The following fundamental assumption was recorded to apply to all activities in all sites: **The fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved. This assumption applies to all activities.** Table II.3.13d shows more specific working assumptions and implications that were recorded for this site over the course of the planning process.

Following that, table II.3.13e shows the vulnerability assessment (VA) snapshot for this site. The VA meetings took place at the end of the project, and they did not involve the Steering Group. They started to discuss site management, but did not reach any firm conclusions. The VA snapshot table reflects the point that the VA discussions had reached at the time of the last Joint Working Group meeting in May 2011. Many Steering Group members expressed concerns about the VA process and its outcomes (see section II.2.1 for full details).

Table II.3.13d Specific assumptions and implications relating to South of the Isles of Scilly rMCZ. Black text reflects the working assumptions and implications recorded throughout the planning discussions. The development of the narrative recorded in black can be traced back through the Working Group and Steering Group meeting reports from 2009 to 2011. Red and green text in the first column comments on how the snapshot of the vulnerability assessment (VA) relates to each of the working assumptions that had been made as planning took place (refer to part I for a full explanation of the VA snapshot). Note that in PR3 this site was treated as an inshore site and had assumptions relating to activities such as bait digging, beach replenishment etc. These are not relevant and have been removed.

Activities assumed to not be allowed within the site	
Assumptions	**Implications**
Bottom-towed fishing gear will not be allowed. This activity was discussed during the VA meetings, and it was determined that the activity would be prohibited in the whole site.	**Direct implications:** o Loss of ground for bottom-towed gear fishermen, both UK and non-UK o Displacement of bottom-towed gear o Increased competition for fishing grounds o Reduced diversity and flexibility of fishing o Cumulative impact on bottom-towed gear fleet where protected areas are close together o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) o Well used by Newlyn beam trawlers and Plymouth scallopers as well vessels from other ports. It is used as a starting and finishing position for Newlyn based beam trawlers as well as scallop vessels. o Potential environmental implications derived from concentrating effort in alternative grounds or due to new fishing ground searching activity. **Given this assumption there are still the following concerns:** o The SW Fishing Industry MCZ Planning Group has noted significant concerns over this site given the implied closure of a significant fishing ground.
Anchoring of large vessels will not be allowed (except in emergencies) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o There is a general right of anchoring as a consequence of and incidental to the Public Right of Navigation.
Aggregate extraction will not be allowed. Activity not taking place / not taking	**Direct implications:** o Aggregate dredging can only occur where the mineral resources are geologically located – in highly localised and discrete areas. If aggregate operations are not allowed in

place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	MCZs (subject to appropriate monitoring, mitigation and management), and MCZs coincide with aggregate resource, then this will have significant impact on national construction aggregate supply and coast defence. o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence. **Given this assumption, there are still the following concerns:** o If aggregate operations (subject to appropriate monitoring, mitigation and management) are restricted in areas adjacent to an MCZ, then this will have significant impact on national construction aggregate supply and coast defence.
Dumping and disposal will not be allowed. That includes dumping of fish waste from processing vessels and munitions. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Activities assumed to possibly need restricting (limiting or mitigating) within the site or parts of the site.	
Assumptions	**Implications**
Static fishing gear will be permitted, but there may need to be a limit on the amount of static gear used in the area. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o No tow zones will be inundated with pots and static gear and cause difficulties for sea anglers (This comment was recorded during one of the early planning meetings. Several stakeholder representatives have since stated that the comment is unrealistic.) **Given this assumption, there are still the following concerns:** o Static gear fishermen might face possible additional costs for mitigation measures, should they be needed o There would be costs if monitoring is needed
The installation, operation and maintenance of renewable energy devices will be permitted *Based on SAP feedback the*	**Direct implications:** o **Given this assumption, there are still the following concerns:**

assumption cannot apply to all sites in the network, although it can apply to any given site on its own. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	o The MCZ designation may mean that additional management requirements are defined for renewable energy developments. This could result in: - additional costs to the renewables industry, e.g. for licensing mitigation and monitoring - delays to renewables development - delays, lost revenue and additional costs associated with cable repair activity restrictions o Costs and delays associated with co-location of renewables in MCZs, could result in long term implications in terms of renewables deployment which could have serious implications for industry and Government in terms of loss of operational revenue and missing EU climate change targets. o Enforced co-location with MCZs would dramatically restrict deployment. **If the assumption turns out to be wrong:** o If co-location assumptions are not correct the impacts would/could be: site locations that can't be developed, increased costs (the implications could be re-routing of cables around a feature could cost an additional £600,000 - £1.3m/km depending on cable type, size and seabed geology), construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities. o Increased competition for sea space with other sea users. o Excellent wind and wave energy resource area but unlikely to be developed as within the Traffic Separation Scheme.

Activities assumed to be allowed to continue / occur within the site	
Assumptions	**Implications**
Handlining (recreational angling and commercial handlining) will be permitted. Handlining includes sea angling and trolling. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o Handliners might face possible additional costs if mitigation measures are needed o There would be costs if monitoring is needed **Benefits:** o

The installation and maintenance of cables will be permitted and will not be made prohibitively expensive within the site. This applies to power cables (including cables for renewable energy devices), and telecommunications cables. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption there are still the following concerns:** o Cable installation cost increases and delay o Cable repair cost, delays and lost revenue could increase due to activity restrictions on cable repair. o There is no definition of what 'prohibitively expensive' means; the cables representative would like assurance that no additional cost will result from MCZ designation (beyond costs associated with existing management and mitigation requirements). **If the assumption turns out to be wrong:** o For renewables/power cables, re-routing of cables around a feature or site might mean longer cable routes, at a cost of £600,000 - £1.3 million/km depending on cable type, size and seabed geology. o There may be other costs, e.g. costs associated with licensing, mitigation measures and monitoring requirements. o Increased licensing requirements and costs of cabling may have serious implications for industry and Government in terms of loss of operational revenue, missing EU climate change targets etc.
The operation of cables (power and telecommunications) & pipelines will be permitted (i.e. any existing cables will be allowed to stay operational) Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **If the assumption turns out to be wrong:** o One active and four inactive telecoms cables.
Tourism and recreational activities will be permitted. Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o
Passage of ships will be permittedActivity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o

Anchoring of small vessels will be permitted *There isn't a clear, agreed Working Group definition for what constitutes a 'small vessel'.* Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o **Given this assumption, there are still the following concerns:** o No clear working group definition exists of what counts as a 'small' vessel. 24m was proposed some time ago by the RYA, but no decision was reached as to whether we would adopt that size in MCZ planning.
Anchoring for maintenance and access for licensed visitors to heritage wrecks will be permitted Activity not taking place / not taking place at high enough levels to cause a problem in this site, so this was not considered during the VA meetings	**Direct implications:** o (No heritage wrecks currently present in the site)

Table II.3.13e VA Snapshot table: This table records the point which the vulnerability assessment discussions had reached regarding site management, at the time of the final Joint Working Group meeting in May 2011. The outcome is not definitive, and the VA did not carry out an exhaustive review of all the working assumptions recorded in the longer table above. The Steering Group were not directly involved in the VA discussions, and at their final meeting, expressed considerable reservations about the VA outcome (see section II.2.1). The reason this VA snapshot table is included here is so that readers have a record of what the VA snapshot was showing at the time the final stakeholder comments were recorded for this site. For a full explanation of the VA snapshot, please refer to part I. The maps in appendix 13 show a visual representation of the information in all the VA snapshot tables in the rMCZ site reports.

Sector	Potential Management
Commercial Fishing – all mobile bottom gears	Management: - Prohibition of fishing in the rMCZ Measure: - Common Fisheries Policy

Stakeholder narrative: Uncertainties and Additional Comments

Uncertainties

The most significant uncertainty faced by the project was the lack of knowledge on management of MCZs, and this uncertainty still applies to all rMCZs in the network. There was uncertainty over what activities will be affected by MCZ designations: what activities will be permitted to continue within (or near) MCZs, what activities will not be permitted, and what activities will require mitigation or some form of restriction other than a complete ban. There was also uncertainty over what measures will be taken to ensure any activity restrictions are put in place (e.g. byelaws, voluntary measures).

The following additional uncertainty has been highlighted for this site:

- There have been conflicting statements as to whether or not the UN Convention on the Law of the Seas (UNCLOS) allows the permanent right to lay cables in the offshore outside of 12 nautical miles or whether this activity can be managed following MCZ designation.

Additional comments

The following is a set of additional comments made by stakeholder representatives over the course of the planning work. Some of these comments were made specifically about this site, others were more generic comments which the project team consider to be relevant to this site.

- *Fishing*
    - This site is important to almost twenty fishing vessels from South Normandy.

- *Mobile bottom gear*
    - Seasonal closures are an inappropriate measure for benthic conservation.

- *General benefits of MCZs*
    - Some stakeholder representatives would like the following recorded and for these to be considered during the impact assessment:
        - Fisheries spill-over.
        - Improvements for the local economy.
        - Education opportunities.
        - Benefits to science.
        - Focus for voluntary groups.
        - Potential increase in the amount and quality of recreational activities (diving, sea angling, environmental tourism, etc).
        - The designation as an MCZ will be a selling point and will undoubtedly be used as an identifier to the area to highlight it as somewhere to visit.

- *Monitoring*
    - There are two main types of monitoring which will need to take place within rMCZs:
        - Monitoring the activities within a site and the various levels at which they are occurring.
        - Monitoring the ENG features for changes in condition.

- *Management measures*
    - This rMCZ straddles the 12 nautical mile limit. Part of this rMCZ is inshore (within territorial waters), but it lies beyond the 6 nautical mile limit, and partly outside the 12nm limit. There may be non-UK vessels with historical fishing rights in the area. For sites beyond 6nm, stakeholder representatives repeatedly voiced concern over how the activity of non-UK fishing vessels might be managed, and stated opposition to any unilateral measures that would apply to UK vessels only. At the time of the third progress report, we had received the following statement from the SNCBs and Defra: 'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are

applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

- *Vulnerability Assessment*
  - Steering Group representatives voiced general concern over the process and outcome of the vulnerability assessments. This was mainly in relation to inshore sites, however, please refer to the Steering Group statement made in section II.2.1.

Levels of support

The network report (section II.2) includes a project team reflection on levels of support for the network recommendations as a whole, and the site specific reflection presented here should be read within the wider network context.

The size of this site was halved from a previous suggestion, in order to accommodated fishing interests. The site remains controversial with UK and non-UK fishermen.

The Crown Estate highlighted that what were building blocks iL13 and iL20 are in an area with an active telecommunication cables interconnecting UK mainland overseas. Supportive with the assumption that MCZ designation would not restrict maintenance / repair of cables described.

Supporting documentation

GIS data used for reporting the quantitative habitat and species figures in the tables above includes the following sources: UKSeaMap modelled broad-scale habitat data and MB102. Refer to appendix 8 for details, and to the tables above for data sources for specific features in this site. Further information on the Natura 2000 sites to which this site is related may be found on the JNCC's website[22].

Further evidence underpinning the site can be found in the publications and datasets referred to in the detailed site description. There may be additional information relevant to this rMCZ in Garrard (1977), and Poulton *et al*. (2002).

Site map series

On the following pages there are three maps of this site.

- The first map (FR_021a) is the main site map showing the rMCZ boundary and includes points with coordinates (in WGS84 UTM30N). The map also shows charted depth and existing Marine Protected Areas for reference. Please note: the lat/long coordinates of the vertices in the following maps have been calculated in decimal degrees, and in degrees, minutes and seconds. For plotting on a standard Admiralty (UKHO) chart, the seconds of each coordinate need to be converted to decimal. An MS Excel table showing all coordinates in degrees, minutes and decimal seconds has been provided in the additional materials section (see Appendix 14) for plotting purposes.

[22] http://jncc.defra.gov.uk/page-4

- The second map (FR_021b) shows the rMCZ boundary over broad-scale habitats, and records of habitat and species FOCI. The data shown on this map corresponds with the information in table II.3.13b, data sources are indicated in the table.
- The third map (FR_021c) shows cable routes and some other human activity information. For spatial data showing the distribution of fishing effort, please refer to the interactive PDF maps supplied with the additional materials (see appendix 14).
- Because of the large number of features shown on the site maps (especially inshore biophysical maps), it has not been possible to embed comprehensive legends within the site maps themselves. A comprehensive map legend is therefore provided in appendix 7, which explains the symbology used on all the maps within this final report.
- Appendix 8 describes the data sources for the information shown on the final report maps in detail.

Map: FR_021a

Version:25Aug11

South of the Isles of Scilly rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 2 4 km N

FINDING SANCTUARY

Lat/Long Co-ordinates (WGS84)

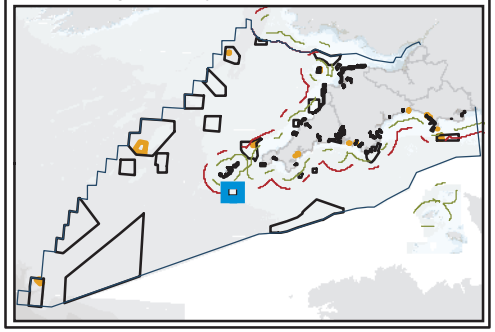
	Decimal degrees		Degrees Minutes Seconds	
	Lat	Long	Lat	Long
A	49.7405	-6.2943	49° 44' 25" N	6° 17' 39" W
B	49.7400	-6.1299	49° 44' 23" N	6° 7' 47" W
C	49.6403	-6.1297	49° 38' 25" N	6° 7' 46" W
D	49.6400	-6.2944	49° 38' 23" N	6° 17' 39" W

Map Legend

12 nautical mile limit

Recommended MCZ (rMCZ)

A comprehensive legend is provided in the appendices of the Finding Sanctuary final report.



Map: FR_021b

Version:31Aug11

South of the Isles of Scilly rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with biophysical information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 1 2 4 km

N

FINDING SANCTUARY

6°20'0"W 6°17'30"W 6°15'0"W 6°12'30"W 6°10'0"W 6°7'30"W 6°5'0"W 6°2'30"W

49°45'0"N

49°43'30"N

49°42'0"N

49°40'30"N

49°39'0"N

49°37'30"N

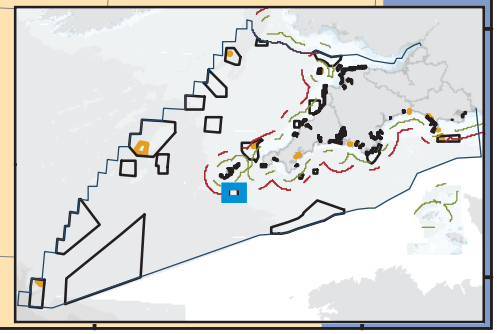
South of the Isles of Scilly

Map Legend

12 nautical mile limit

Recommended MCZ (rMCZ)

These maps contain data from the following sources: Defra contracts MB102/MB106, the JNCC and Natural England, the Environment Agency, Wildlife NGOs and local records centres. Full details and a comprehensive legend are provided in the appendices of the Finding Sanctuary final report.



Map: FR_021c

Version:6Sep11

South of the Isles of Scilly rMCZ

This is one of a series of maps showing Finding Sanctuary's final MCZ recommendations, with socio-economic information. It is designed to be viewed within the context of the project's final report. Datum: WGS84. Projection: UTM30N.

0 3 6 12 km

N

FINDING SANCTUARY

6°36'0"W 6°30'0"W 6°24'0"W 6°18'0"W 6°12'0"W 6°6'0"W 6°0'0"W 5°54'0"W 5°48'0"W

49°48'0"N 49°44'0"N 49°40'0"N 49°36'0"N 49°32'0"N

Isles of Scilly sites

South of the Isles of Scilly

Map Legend

- 6 nautical mile limit
- 12 nautical mile limit
- Recommended MCZ (rMCZ)
- Traffic separation zone
- Charted wrecks
- Power and telecommunications cables (KISCA)

This map series contains data from a variety of sources including the UKHO, the Environment Agency, and The Crown Estate. A full list and a comprehensive legend can be found in the appendices of the Finding Sanctuary final report.