Managing marine recreational activities: a review of evidence

NATURAL ENGLAND

Foreword

Natural England commission a range of reports from external contractors to provide evidence and advice to assist us in delivering our duties. The views in this report are those of the authors and do not necessarily represent those of Natural England or the Marine Management Organisation.

Background

There are a wide range of recreational activities carried out in English seas but their potential impacts and effective management options are often not clear. This study was commissioned by Natural England and the Marine Management Organisation to collate and update the evidence base on the significance of impacts from recreational activities on designated features in MPAs; carry out a review and collate case study examples of the range of management options such as codes of conduct and engage with national governing bodies for different activities to look at existing national good practice, opportunities for further work and recommendations.

The study outputs, which will be used to assist those involved in MPA management, include:

- Evidence briefing notes, to provide a high level review of the evidence base relating to the impacts of each activity/activity group on biological features and a generic assessment of the likelihood of significant impacts on a designated site's Conservation Objectives.
- A management toolkit, to provide a high level review of the types of measures available for managing recreational activities, the roles and responsibilities of relevant authorities and case study examples of management measures.
- This report, which provides further information on the study methodology and highlights the recommendations from both regulators and stakeholders in relation to good practice messaging and mitigation of impacts from marine recreational activities.

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Contents

1. Introduction

Marine habitats and features of Conservation Importance are protected within English territorial waters and UK offshore waters through a network of Marine Protected Areas (MPAs), comprising of Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Marine Conservation Zones (MCZs) and Sites of Special Scientific Interest (SSSIs).

Natural England is a Statutory Nature Conservation Body (SNCB) whose role is to provide evidence-based advice to Government and regulators to improve decision making in the marine environment and support delivery of environmental objectives. This includes providing advice on the potential impacts and management of recreational activities in the marine environment, particularly with regard to impacts on designated features of MPAs and the implications for meeting the Conservation Objectives of those sites.

The Marine Management Organisation (MMO) is an executive non-departmental public body which licences, regulates and plans marine activities in the sea around England, to ensure they are carried out in a sustainable way. The MMO has the power to create byelaws to control activities to protect MPAs which do not require a marine licence, including recreation.

The MPA Management National Steering Group (NSG) was established to address the need for national coordination of management within MPAs, and is currently working to develop a national reporting structure for MPA management. This is to ensure that management of marine activities and hence management of MPAs can be monitored and the success of MPA management can be assessed.

The current study was commissioned by Natural England and the MMO to collate and update the evidence base on the significance of impacts from recreational activities on designated features in MPAs. The study also included a review of the range of management measures which may be used to manage the activities and collating case study examples where possible on the effectiveness of the different management measures. The work was designed to build upon and be complementary to Natural England's Conservation Advice and Advice on Operations[1], which should be referred to for MPA-specific information.

Natural England's Advice on Operations identifies pressures associated with the most commonly occurring marine activities, including marine recreational activities, and provides a broad-scale assessment of the sensitivity of the designated features of the site to these pressures. As such, the Advice on Operations provides an initial assessment of whether a proposed plan, project, or ongoing activity, may have an impact on a feature in the site. These assessments are based on nationally available sensitivity evidence (APEM, 2014 and MarLIN, 2014).

An understanding of the distribution of coastal and marine recreational activities is provided by a number of data and evidence sources, for example, the MCZ Regional Seas projects, the Improvement Programme for England's Natura 2000 sites (IPENS)[2] and regional Marine Plans in England[3]. However, whilst the IPENS project provided an indication of where recreational activities may be an issue within MPAs, there is a requirement to further understand the significance of the pressures arising from the activities. This will inform whether there is a subsequent need for management of the recreational activities.

The study objectives were to:

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[1] https://www.gov.uk/government/collections/conservation-advice-packages-for-marine-protected-areas

[2] https://www.gov.uk/government/publications/improvement-programme-for-englands-natura-2000-sites-ipens

[3] https://www.gov.uk/topic/planning-development/marine-planning

1. Update and collate the evidence base on the impacts of marine recreational activities;
2. Review the effectiveness of management measures for recreational activities; and
3. Provide suggestions, working with national stakeholders, to develop national good practice messaging for recreational sea users.

The outputs of the study include the following three publicly available resources:

1. Evidence briefing notes, providing a high level review of the evidence base relating to the impacts of each activity/activity group on biological features and a generic assessment of the likelihood of significant impacts on a designated site's Conservation Objectives;

2. A Management Toolkit, providing a high level review of the types of measures available for managing recreational activities, the roles and responsibilities of relevant authorities, case study examples of management measures which have been implemented and regulator and stakeholder feedback on their effectiveness at influencing recreational sea user's behaviour and mitigating environmental impacts; and

3. This report, which provides information on the methodological approach of the study and identifies the recommendations from both regulators and stakeholders in relation to good practice messaging and mitigation of impacts from marine recreational activities.

2. Collation and update of the evidence base on the impacts of recreational activity (Objective 1)

The aim of Objective 1 was to collate existing evidence on the impacts of marine recreational activities and update the evidence base via a desk-based literature review and open 'call for evidence' from stakeholders.

2.1 Activities and pressures considered within the study

The recreational activities included in the study scope were confirmed with the Project Steering Group (PSG) as those that were highlighted as part of the IPENS project in the Site Implementation Plans (SIPs)[4] for Natura 2000 sites as potential issues. Two other activities (drone use and general beach leisure), both recently flagged up as potential issues by Natural England site leads, were also included. Activities out with the scope of this study included dog walking, walking, angling, bait digging, mooring and anchoring. Table 1 shows the activities included in the study and the activity groupings into which they were placed, based on likely similar areas of operation in the sea (e.g. surf zone, coastal waters, offshore waters etc.) and/or mode of operation (e.g. marine boardsports with sail; motorised watercraft) which were likely to result in similar types and magnitude of pressure.

The specific pressures included in the study scope were:

- abrasion/disturbance of the substratum surface (and associated features) or sub-surface;
- noise changes (above and below water); and
- visual disturbance.

Table 1 Activities included in the study

Activity Group	Activities included in group
Boardsports with sail	Kitesurfing
	Windsurfing
Boardsports without sail	Surfing
Coasteering	Coasteering
Diving / snorkelling	Diving
	Snorkelling
Drones	Recreational drone use at coast
General Beach Leisure	Beach combing, beach games, sunbathing
	Rockpooling
	Sea swimming
Hovercraft	Recreational hovercrafting (cruising) in coastal waters
Land vehicles (motorised and un-motorised)*	Quad bikes, scramble bikes or cars on foreshore
	Sand-yachting
	Kite buggying
	Landboarding
Light aircraft (motorised and un-motorised)	Small planes, helicopters (civilian, non-commercial)
	Paramotors
	Microlights
	Hang gliders

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[4] http://publications.naturalengland.org.uk/category/5458594975711232

	Paragliders
Motorised watercraft (including towed watersports)	Motorboats (powerboats)
	Yachts under engine
	Wakeboarding, waterskiing
	Parascending, parasailing
Non-motorised watercraft*	Kayaking (sea, surf kayaking, sit-on-top)
	Canadian canoeing
	Stand up paddleboarding
	Dinghies, day boats or other small keelboat
Personal watercraft users	Personal watercraft users
Wildlife watching	Wildlife watching on land
	Wildlife watching on vessel at sea
* Grouped for the purposes of producing one overarching evidence briefing note where there was a paucity of evidence relating to impacts for some of the activities within the group. However, differences between the pressures arising from activities within the group are highlighted where these occur, for example, changes in noise (in air) for motorised and un-motorised land vehicles. **Note – activities outwith the scope of this study included: dog walking, walking, angling, bait digging, mooring and anchoring.**	

2.2 Literature review and call for evidence

To direct the evidence review, an initial scoping exercise was undertaken to:

- Identify which of the marine recreational activities resulted in an abrasion (surface or sub-surface), noise or visual disturbance pressure (based on Natural England's Conservation Advice and Advice on Operations);
- Identify the existence of a potential impact pathway between the activity/pressure and specific receptor groups (intertidal and subtidal benthic habitats, fish, marine mammals and birds), based on knowledge of the existing evidence base and/or expert judgement.

The outputs of this scoping exercise enabled the literature review to focus on collating evidence of impacts where pathways for interaction between the activity/pressure and receptor groups were judged to exist. The outputs of this scoping exercise are summarised in the briefing notes that were produced for each activity/activity group in Table 1.

Evidence relating to the impacts of the marine recreational activities on the receptor groups representative of features of MPAs was sourced via the following methods:

- Collation of evidence from existing databases / review sources, including:
- Natural England's Conservation Advice and Advice on Operations (data supplied by Natural England);
- Existing reviews of impacts of recreational activities (e.g. Prior, 2011; Liley et al. 2012; UK CEED, 2000);
- A literature search via google scholar, academic databases and google to capture any new evidence within peer-reviewed or grey literature; and
- A general call for evidence from stakeholders, circulated via the Communications and Management for Sustainability network (see Appendix A for Call for Evidence and Appendix B for organisations which responded to the Call for Evidence).

All evidence was collated in a new evidence database supplied to Natural England and the MMO.

2.3 Assessment of the significance of impacts with respect to MPA Conservation Objectives

A key aim of the study was to identify those activities that are likely to be of greatest or least concern within MPAs in terms of their potential to have an adverse effect on the integrity of a designated site and hence the potential to hinder the site's Conservation Objective (CO). As such, an assessment was undertaken of the relative risk of significant impacts from each type of activity on feature groups for which a site may have been designated.

The assessments used the updated evidence base from Objective 1, combined with generic information about the likely overlap of the activity with feature groups and the sensitivity range of the feature groups, to provide an indication of:

  i)   the likelihood of an observable/measurable effect on the feature group; and

  ii) the likelihood of a significant impact on COs based on the effect on the feature group;

The relative ratings of the likelihood of significant impact on COs were defined as:

- low – possible observable/measurable effect on the feature group but unlikely to compromise COs;
- medium – observable/measurable effect on the feature group that potentially could compromise COs;
- high – observable/measurable effect on the feature group that almost certainly would compromise COs.

An additional aim of the study was to seek evidence relating to what threshold levels (i.e. intensity) of recreational activities may increase the likelihood of a significant impact. However, it can be noted that no evidence was found to enable any such 'rule of thumb' to be applied.

It must be noted that each assessment only provides a generic indication of the likelihood of significant impacts, because site-specific factors, such as the frequency and intensity of the activity, will greatly influence this likelihood. Key site-specific factors which influence the likelihood of impacts from each activity include:

- the spatial extent of overlap between the activity/pressure and the feature, including whether this is highly localised or widespread;
- the frequency of disturbance e.g. rare, intermittent, constant etc.;
- the severity/intensity of disturbance;
- the sensitivity of specific features (rather than the receptor groups used in the generic assessments) to pressure, and whether the disturbance occurs when the feature may be most sensitive to the pressure (e.g. when feeding, breeding etc.);
- the level of habituation of the feature to the pressure; and
- any cumulative and in-combination effects of different recreational activities.

The results of the assessment are provided in the briefing notes produced for each activity/activity group (see Section 2.4).

2.4 Outputs of the Evidence Review and Significance Assessments – evidence briefing notes

Briefing notes have been produced for each activity/activity group, providing a high level summary of:

- the evidence of impacts (or lack of impacts) of the activities on the receptor groups; and
- an assessment of the relative risk of a significant impact on a site's COs.
- the briefing notes also provide a high level summary of:
- examples of the types of management measures which have been used to mitigate environmental impacts of the activities, provided through stakeholder consultation (summarised outputs of Objective 2); and
- a summary of existing national good practice messaging and sources of further information (summarised outputs of Objective 3).

The briefing notes are publicly available online at:
http://publications.naturalengland.org.uk/category/4891006631149568

3. Review of the Effectiveness of Management Measures for Recreational Activities (Objective 2)

The aim of Objective 2 was to produce a Management Toolkit, providing stakeholders with high level information relating to:

- the range of management measures available for recreational activities;
- the roles and responsibilities of relevant authorities; and
- example case studies of management measures for recreational activities and their perceived influence on user behaviour and mitigating environmental impacts (both from a regulatory/relevant authority perspective and user/stakeholder perspective where possible).

This information was collated through telephone interviews with a wide range of stakeholders, including SNCBs, European Marine Site Officers, regulators[5], environmental non-governmental organisations (NGOs), coastal forums, statutory harbour authorities, local authorities and the National Governing Bodies (NGBs)[6] for each activity (or national advisory, training or membership organisation where no governing body existed) (see Appendices C, D and E for lists of stakeholders contacted and for examples of the questionnaires sent to the stakeholders). A total of 84 stakeholders were contacted via email and invited to engage with the project team and 31 interviews were undertaken to collate example case studies of management and feedback on their effectiveness in influencing recreational sea users' behaviour and hence potential impacts on the environment. Where an example management measure had only recently been implemented, and hence there was not yet any feedback on the perceived effectiveness, this has been noted as a 'new initiative' in Appendix F.

3.1 Outputs of the Stakeholder Consultation on Management Case Studies – Management Toolkit

The output of the stakeholder consultation was a Management Toolkit, in the form of a searchable spreadsheet, which provides an overview of:

- the types of management measures for marine recreational activities;
- the roles and responsibilities of the authorities/organisations involved in the management of marine recreational activities;
- case studies of management measures, summarising:
    - o The approach taken to implementing the measure; and
    - o Stakeholder opinion on the perceived effectiveness of the measure, including any specific factors which contributed to the perceived success or lack of success of the measure.

The Management Toolkit is publicly available online at:
http://publications.naturalengland.org.uk/category/4891006631149568

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[5] Regulators including the MMO and the Association of IFCAs were contacted regarding the study, however, initial discussions with respondents indicated that the information held was not within the scope of this study (e.g. related to mooring/anchoring and fishing). Hence detailed consultation interviews were not undertaken with the respondents.

[6] NGBs are typically independent, self-appointed organisations that govern their sports through the common consent of their sport (https://www.sportengland.org/our-work/national-governing-bodies/sports-that-we-recognise/)

A summary of the key factors which were considered to contribute to the success of a management measure, or which posed a potential risk to the success of the measure, are summarised in the recommendations section (see Section 5).

4. National Body Good Practice Messaging (Objective 3)

Management of recreational activities is most likely to be achieved through promotion of good practice, raising awareness and voluntary Codes of Conduct (CoCs) in the first instance. The alternative is to implement statutory measures, primarily in the form of byelaws[7], which only certain competent and relevant authorities have the power to do (refer to the Management Toolkit for further description of statutory management measures). Defra advice is that byelaws should only be considered when all other means of control (such as voluntary schemes) have been tried and failed, or are not considered appropriate (Liley *et al*. 2012). Furthermore, management through voluntary mechanisms is considered more likely to achieve stakeholder 'buy-in' through their inclusion in the process and hence potentially have lower enforcement requirements.

Whilst the Management Toolkit provides examples of the work that is going on at site level to engage local user groups and clubs to develop such voluntary codes and good practice messages, NGBs can also potentially play an important role in promoting and cascading consistent messaging to local clubs and stakeholder groups.

As such, the aim of Objective 3 was to engage NGBs, or national advisory, training or membership organisations where no governing body exists (collectively referred to from here as 'National Bodies') to:

- Discuss the feasibility and opportunity for promoting, or further promoting, good practice and raising awareness amongst their members/users; and
- Work with them to provide suggestions on developing, or further developing, consistent and clear messaging that could be promoted to users.

A list of National Bodies was compiled in collaboration with the PSG, and also using information provided by stakeholders in Objective 2. Each organisation was then contacted via email to introduce the study, invite them to engage in the project and provide an overview of the type of information being requested. A total of twelve National Bodies were contacted via email and invited to engage with the project team and seven interviews were undertaken. The National Bodies contacted and an example of the information requested are shown in Appendix D.

In addition to the interviews, from the websites of the National Bodies, it was ascertained whether the National Body had a CoC or Good Practice Guidance that was readily available on their website and whether the Code/Guidance made explicit reference to good practice with regard to minimising any user impacts on the marine environment and wildlife. The outputs of this brief review and the stakeholder interviews are described in Section 4.1 below.

4.1 Outputs of the Consultation with National Representative Bodies Regarding Good Practice Messaging

The key points from the review of the National Body websites and the stakeholder interviews are:

- Out of the twelve National Bodies assessed, six had CoCs/Guidance on their websites;
    - Four of these CoCs incorporated messages regarding minimising impacts to the marine environment/wildlife, albeit to varying degrees.
    - Two of the CoCs related exclusively to safety;

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[7] or via a Special Nature Conservation Order (SNCO), under which a 'stop notice' may be served on behalf of the Secretary of State to prohibit an activity, which Natural England are able to request

- Some of the good practice resources had been developed in collaboration with environmental charities such as the Royal Society for the Protection of Birds (RSPB) (e.g. British Canoeing and RSPB Guidance 'You, your canoe and the marine environment);
- Whilst four of the National Bodies did not have specific CoCs on their website, they did highlight links to the good practice resources of closely related environmental charities (The Green Blue and Project Aware);
- No CoCs appeared to be readily available on two National Body websites;

Methods of promoting good practice resources or messaging beyond what is publicly available on the National Body websites included:

- Production of good practice leaflets for recreational sea users, distributed to members through emails, clubs and training centres, and displayed on notice boards (e.g. in clubs, training centres, at marinas, at events);
- Via training material, for example, some National Bodies work very closely with specific environmental charities (e.g. The Green Blue and Project Aware) and integrate the charities' environmental and good practice messages into their training materials;
- Via outreach and raising awareness face-to-face for example, through training events, marketing events, conferences, visiting centres/clubs/marinas;
- Via partnership working, for example, with NGOs, the Royal National Lifeboat Institute (RNLI), Local Authorities, Boating Associations, Coastal Forums, Outdoor Charter Groups etc.;
- Via workshops and national meetings for members; and
- Via social media (e.g. Facebook, Twitter).

Further information about the National Bodies and their associated good practice messaging materials are provided in the activity specific evidence briefing note and the Management Toolkit, which are available here: http://publications.naturalengland.org.uk/category/4891006631149568 .

Information obtained through these stakeholder interviews was also used to inform the recommendations below regarding success factors and current issues in the management of recreational activities and good practice messaging.

5. Stakeholder Recommendations on Good Practice Messaging and Management of Recreational Activities

The outputs of the stakeholder engagement for Objectives 2 and 3, have been used to compile a summary of:

• current issues and limitations regarding good practice messaging;
• current issues regarding management of recreational activities; and
• suggested methods and opportunities for successfully communicating good practice messages.

5.1 Issues for managing activities and good practice messaging highlighted by stakeholders

Table 5.1 summarises factors which stakeholders highlighted may reduce the success of promoting good practice messaging or the ability to successfully manage recreational activity.

Table 5.1 Current issues and limitations of good practice messaging and management for marine recreational activities

Stakeholder	Good Practice Messaging –current issues and limitations
National Body	It is harder to reach individuals that don't operate via a club with good practice messaging. Examples given included Personal Watercraft (PWC) users (although it can be noted that the Personal Watercraft Partnership (PWP) stated that PWC user clubs do exist and that club creation and subsequent membership continues to be a proven avenue to responsible behaviour, while some PWC users operate out of sailing clubs) and recreational boaters which may operate directly out of marinas rather than through a club
National Body	National Bodies may not have environmental expertise and the provision of expert advice regarding the environmental information to be conveyed would be helpful. Once the body has this information it can be built into the good practice messaging for dissemination e.g. via coaching or through local clubs. National Bodies can assist by providing or drafting any required technical information relating to their activity
National Body	Where an organisation has already produced good practice messaging they may not be willing to produce or put their name to any further national good practice messaging material as multiple resources may create confusion amongst their members
Relevant Authority	Some stakeholders felt that some National Bodies were, understandably, more focussed on the safety and quality of experience for their members, rather than environmental good practice messaging
Stakeholder	**Management of recreational activities- current issues and limitations**
Relevant Authority	It was raised by several stakeholders with statutory responsibility for managing the environmental impacts of recreational activity (i.e. relevant authorities), that this was far harder to achieve when there was no National Governing Body for an activity, or where there were

	a number of organisations or businesses representing the activity but none having a national governing role. In this instance, these activities were considered to be 'unregulated' by the stakeholders. Activities mentioned in this respect included stand-up paddleboarding (represented by four organisations), coasteering (represented by the National Coasteering Charter) and PWC (represented by the Personal Watercraft Partnership), although it can be noted that the National Bodies representing these activities have been involved in the development of national or local CoCs (see Management Toolkit for further information)
Relevant Authority	In some parts of the country, different areas of the shore (e.g. upper and lower shore) and seabed may be under different ownership, with each landowner having different levels of involvement or ability to manage recreational activities. Furthermore whilst several of these landowners may be able to issues licences for watersport centres/schools, the criteria by which these licences are granted may not be consistent, with respect to safety or environmental standards. Hence this was perceived to complicate the issue of managing recreational activities and mitigating any environmental impacts
Relevant Authority	Some stakeholders raised the issue of the Public Right of Navigation, which is a common law right. It was noted that there are limited ways in which a public right of navigation can be affected. Some relevant authorities felt that this can limit the options for implementing some management measures (e.g. zonation) for the purpose of mitigating any impacts of activities on the environment. It should be noted that this does not prevent the promotion of good practice messages in such areas to encourage responsible behaviours
Relevant Authority	The changing landscape of marine recreational activity was also noted as a potential issue, for example, when new activities become popular (e.g. recreational drone flying, paramotoring), or when activities only occasionally caused disturbance. It was recommended that to deal with this, it would be useful for relevant authorities (e.g. the Harbour Authorities) to know what to do and who to contact so they can respond quickly and appropriately

5.2 Stakeholder recommendations for successful good practice messaging

Table 5.2 summarises factors which stakeholders highlighted may increase the likely success of promoting good practice messages for recreational activities.

Table 5.2   Stakeholder recommendations for successful good practice messaging

Stakeholder	Good Practice Messaging – recommended factors
Multiple (National Bodies, SNCBs, Relevant Authorities and other stakeholders)	The provision of resources about environmental impacts (e.g. disturbance) and good practice measures to mitigate impacts, that can be customised for local use, for example, through addition of local maps of sensitive areas, information on locally present species and local issues. Several examples of this approach were highlighted including: ▪ The WiSe scheme, which provides training courses for the public, boat operators and specialist wildlife watching tour operators. Courses are specifically tailored to the local area where the training has been requested, to incorporate locally

	relevant species and issues. Local instructors who know the area and target audience are also recruited and trained to help promote the good practice messages in a locally relevant setting; ▪ The Scottish Marine and Wildlife Watching Code (SMWWC), which has a concise version and a more detailed guide to enable customised local versions to be created. For example, the SMWWC was used as the basis for the creation of a local code for Aberdeen Harbour in relation to Bottlenose Dolphins; ▪ Paddlesport Guidelines recently created for stakeholders (e.g. Harbour Authorities) who requested basic information (text) about the activity, which they could customise to local circumstances (e.g. add local maps) for use within the Solent European Marine Site (EMS); and ▪ The Green Blue guidance for writing local guidance, which was created after a review of local CoCs which were found to essentially still contain national level messages that were not necessarily relevant to local areas. It should be noted that this guidance starts by stating that local guidance should only be considered if the national level guidance is not sufficient to meet local needs. It should be noted that one National Body noted that they felt their work at local level in helping to identify issues and find solutions in partnership with other local stakeholders, was very successful and hence that provision of national messaging for this activity would not necessarily be beneficial.
National Bodies and other stakeholders	Good practice messaging must be positive and welcoming - 'finger wagging' does not work and just telling them they can't do something does not achieve user 'buy in'. Examples included where National Bodies felt that voluntary exclusion zones had been applied without sufficient explanation as to why. In these circumstances it was felt that further engagement to explain the rationale (e.g. to highlight wildlife sensitive to disturbance) would increase user buy in.
National Bodies	To be most effective, the target audience should be engaged face-to-face to explain the rationale for the good practice messages. This was highlighted by several National Bodies and key stakeholders to be far more effective than just producing and circulating material for users to read.
Relevant Authorities	Social media could be the way forward for reaching and educating users, for example, for groups that have been hard to reach using previous good messaging methods (leaflets, training etc.). Examples of the use of social media highlighted: ▪ Incidents of disturbance that had been recorded on video by another participant, and which had been placed on user forums to raise awareness of wildlife disturbance and the impacts, were highlighted as examples of how to reach and educate large numbers of users who use such forums; ▪ Social media (Twitter, Facebook) is being successfully used to help 'self-police' activities and highlight where voluntary CoCs or zonation measures are being breached; ▪ Increase the use of social media (e.g. You Tube channels) to educate users, for example, with short educational videos

	showing what disturbance looks like. In addition to educating users, this would also be beneficial for people recording disturbance events (e.g. wardens, volunteers etc.) and authorities implementing/enforcing management.
Multiple National Bodies and Relevant Authorities	Partnership working, to help identify issues and achieve consensus on a solution between all relevant stakeholders and disseminate good practice messaging more widely, was repeatedly highlighted as a key to success. It was considered particularly important to work with National Bodies where these exist for an activity, to increase buy in and promotion of good practice messages. Consultation with National Bodies highlighted that several were already working in partnership with SNCBs, environmental NGOs, Local Authorities, Coastal Partnerships, Harbour Authorities or other organisations (e.g. the RNLI) to produce local CoCs and/or implement management measures in areas where issues have been identified (see the Management Toolkit for specific examples). It was felt that this helped to promote the good practice messages to a wider audience. Specific recommendations regarding collaborative working, collated from all stakeholder groups consulted, included: ▪ Think about messages that can be tied together e.g. safety and wildlife disturbance, when considering how to promote good practice messaging more widely. Suggested organisations that could, or do already, contribute to promoting such combined messages include the RNLI, the Maritime and Coastguard Agency (MCA) and the Coastguard. ▪ Development of closer links between National Bodies with regional or local authorities e.g. Harbour masters, Statutory Harbour Authorities, would be beneficial, for example, with regard to knowing about any areas of zonation that have been implemented and hence disseminating this information to members.

6. Summary of Good Practice Messaging

The following section provides a high level summary of the review of National Body good practice messaging and an assessment of the effectiveness of good practice messages as a voluntary management measure for recreational activities.

In essence, for good practice messaging to be effective, it should be developed in the context of a system of environmental management in which:

- Good practice messaging is based on best available scientific evidence of pressures and impacts and best available information on measures that can be taken to avoid or minimise impacts;
- The good practice messaging is effectively disseminated to users and is readily accessible to users in appropriate formats;
- There is a system of monitoring in place to assess uptake and use of the good practice messaging and the effectiveness of the good practice measures; and
- This information is used to inform review and updating of the good practice messaging.

Elements of this system are in place for a number of recreational activities, particularly the good practice messaging, but there is scope to further develop approaches to dissemination, monitoring and review across all recreational activities. The system needs to be developed as a partnership between National Bodies, regulators and conservation advisors.

Existence and development of good practice messages

Half of the National Bodies for marine recreational activities had CoCs although the content relating to mitigating any environmental impacts was highly variable in detail. Some CoCs were comprehensive and had been drawn up in partnership with specialist NGOs and/or in consultation with Natural England. Good examples, include those produced by (note, not necessarily National Bodies): British Canoeing, The Green Blue, WiSe and SNH (see Management Toolkit for further details). Some CoCs make reference to being aware/courteous to wildlife and respecting the law including in relation to designated sites, while others are currently solely related to safety aspects of the activity. Some activities, which were reported anecdotally by relevant authorities to be activities that are increasingly being undertaken and which they consider have the potential to disturb wildlife (for example, kitesurfing, paramotoring, recreational drone flying) did not appear to have any CoCs which referred to avoiding any such potential disturbance to wildlife. While some National Bodies did not have comprehensive CoCs on their website (instead linking to environmental charities with further information), they were engaged in partnership working to help develop local CoCs to address site or area specific issues (e.g. the PWP, British Kitesports) or had a comprehensive guidance document on management for relevant authorities (e.g. the PWP).

Suggestion 1: All National Bodies should be seeking to educate their members regarding the potential for activities to impact on conservation features. Whilst the current study has indicated that some activity/pressure-receptor impact pathways could potentially or almost certainly compromise a site's Conservation Objectives, it has been considered (based on expert judgement) that the application of management which is currently considered 'good practice' will reduce this likelihood[8]. With respect to voluntary CoCs, the examples of

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[8] This judgement is similar to that of Thurston et al. (2012), who assessed the risk of non-consumptive activities (recreational activities) causing environmental impacts in marine reserves (based on a global literature review, so not specific to the UK). The authors concluded that nearly all non-consumptive activities undertaken in marine reserves were compatible with conservation objectives with appropriate management. The exceptions were personal watercraft use and water-skiing, which

CoCs/guidance described above as 'comprehensive' are considered to constitute current good practice. Where such management measures are not implemented (i.e. where comprehensive CoCs are not available) for some activities, the relative increased likelihood of significant impact on a site's Conservation Objectives remains. As such, all primary National Bodies should have a prominent, easily accessible CoC, which should include guidance relating to minimising impacts on wildlife/the environment. Natural England and the MMO could provide technical expertise to help further development of consistent good practice messages, based on the existing comprehensive codes.

Suggestion 2: To help with the consistency of national good practice messaging and identifying synergies and efficiencies in the promotion of such messaging, Natural England and the MMO could invite the relevant National Bodies to join or form a national MPA management forum/working group. Any good practice resource outputs or management updates from such a group could then be disseminated to more regional clubs/groups by the National Bodies.

Dissemination of good practice messaging

The effectiveness of good practice messaging as an environmental management measure will relate to how well the messages are disseminated, taken up and adhered to by members/participants. With regard to dissemination, consultation with National Bodies, Relevant Authorities, Coastal Partnerships and NGOs indicated that some stakeholders and partnerships took a very proactive approach to disseminating good practice messaging, for example, through outreach, training, working with local clubs, attending conferences, forming working partnerships etc. The general consensus was that this was a better way of engaging members/participants and ensuring 'buy in' compared to just the provision of material for users to read. However, this proactive approach was very time consuming and, in general, required financial resources (although some partnerships were successfully taking this approach with specific programme funding, likely due to the organisations involved having high numbers of very 'hands on' members). Nearly all stakeholders conceded that there would always be 'hard to reach' individuals (for example individuals that operated outside of a club) and those that did not want to hear the message. However, it was highlighted that social media (e.g. user forums on Facebook and Twitter, You Tube channels) was starting to be used to spread good practice messages to a wider, and sometimes younger, audience and was a useful way for clubs to 'self-police' voluntary CoCs and agreements and for individuals to exert peer to peer influence.

Suggestion 3: Increase the use of social media and technology for dissemination of good practice messaging, resources and to further educate users. Potential examples include the use of apps for users to access information (key messages, maps etc.9) currently available on websites or in leaflets (which are not accessible during the activity), and the use of YouTube channels for short educational videos showing what disturbance looks like. Whilst National Bodies already utilise social media to varying extents, they should take the lead in the further development of such media for wider dissemination of good practice messaging and educational tools, with expert input and support from regulators and conservation advisors as required with regard to environmental content. In addition to educating users, this approach would also be beneficial for people and authorities involved in implementing

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they concluded were incompatible. In this study, based on case study examples of voluntary management measures for PWC use, it has been considered with good practice management applied that the risk is low, although site-specific factors (e.g. relating to the intensity of the activity and sensitivity of features) should be taken into consideration.

[9] See the Pembrokeshire Marine Code App example in the Management Toolkit and Appendix F of this report

and enforcing management (e.g. wardens, volunteers etc.), for example, providing educational material about disturbance events to benefit monitoring schemes.

Uptake of /adherence to good practice messaging

There was very little information regarding how well good practice messaging was taken up and adhered to by National Body members/users. Two examples of the level of awareness of management measures were highlighted during the consultation:

- In a review of the effectiveness of statutory and voluntary management measures in the Exe Estuary, the Exe Estuary Management Partnership conducted a survey with 37 watersports organisations. The results showed that (taken from the Exe Estuary Framework, 2014):
  - 70% of respondents were aware of existing byelaws, CoCs and zones;
  - 62% of respondents considered the set of behavioural controls (byelaws, CoCs and zoning schemes) worked properly, 25% considered they were working to a fair extent and 14% considered they were not working;
  - Only 42% of respondents were able to list any CoCs;
  - Respondents considered that the majority of the Exe estuary CoCs have been operated well; and
  - 58% of respondents were aware of at least one zoning scheme (voluntary or statutory);

However, the review stated that, from the perspective of a relevant authority, certain CoCs (for kitesurfing and PWC users) at that time were assessed as 'ineffective', mainly because some users were not adhering to them and then causing problems for other water users and beach users. A guide for water users was also considered 'ineffective', with some users not respecting the defined craft landing area and instead using very sensitive bird areas. One of the reasons for the ineffectiveness of the codes was primarily considered due to a lack of people on the ground to promote the voluntary codes, plus insufficient signage at access points. The relevant authority is currently undertaking a review and public consultation (until March 2017) of both the voluntary CoCs and the voluntary exclusion zones in the Exe Estuary. Further to this exercise an updated suite of CoCs will be produced (Stephanie Clarke, Exe Estuary EMS Officer, *pers. comm.* See Case Study in Management Toolkit for further details).

1. In an online Scottish Marine Recreation and Tourism survey, approximately 67% (over 100 out of 150 respondents) had heard of the Marine Wildlife Watching Code[10].

Virtually all stakeholders (relevant authorities and National Bodies) consulted highlighted that monitoring the effectiveness (uptake of and adherence to) voluntary codes and best practice messages was difficult and potentially costly. Monitoring of disturbance events within designated sites (for example, via incident recording schemes) is undertaken at many European Marine Sites (EMS), by staff, rangers, wardens, volunteers and/or through citizen science initiatives. The outputs of such monitoring are used to prioritise recreational activities of concern and actions in the management plans. Some relevant authority stakeholders highlighted that it would be useful to have standardised monitoring protocols across sites and that the development of a national app for recording disturbance events, for example linked to a central database, would be beneficial.

In some areas (e.g. the Solent EMS, Exe Estuary EMS, Thanet Coast EMS and Plymouth Sound and Estuaries EMS) resources have become available due to financial contributions from housing developments to help mitigate potential impacts of increased recreational

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[10] http://www.gov.scot/Resource/0049/00497904.pdf

activity at the coast resulting from population increases associated with the new homes[11]. In these areas, mitigation strategies and monitoring schemes have been developed and will be implemented, including via 'Mitigation officers', whose roles will include education/raising awareness as well as enforcement. The outputs of these schemes will likely provide valuable information regarding the effectiveness of the management measures within these sites in the short term future.

The consultation highlighted that there were good examples of partnership working between National Bodies, regional representatives and/or local clubs and relevant authorities in developing good practice messages and guidance. Several of the case study examples of voluntary management measure which were considered successful in influencing user behaviour, maintained this 'partnership' approach through continued involvement of the local clubs/representatives in annual management meetings.

Suggestion 4: Working in partnership with Natural England, the MMO and relevant authorities as necessary, National Bodies should try and establish methods for monitoring the uptake and adherence to good practice CoC. The formation of the above mentioned MPA forum/working group could facilitate the development of a consistent approach to this issue. Feedback from relevant authorities' existing monitoring schemes and recently implemented mitigation strategies can be used to inform and review this ongoing process.

Suggestion 5: National Bodies should implement suggestion 4 within the context of a system for environmental management. As such, further to developing a strategy/plan for monitoring the uptake of and adherence to good practice CoC, National Bodies should review and update the good practice messaging/guidance at specified intervals (for example every 5 years; it can be noted that two of the comprehensive CoCs had just undergone such a review and update process, both to incorporate new legislation, new activities and to simplify messaging for users to facilitate understanding). Regulators, conservation advisors and NGOs can provide specialist support to this review and update process via the provision of scientific evidence relating to pressures and impacts of activities, outputs of monitoring programmes at site level and their own management review processes to identify any new or ongoing issues.

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[11] The requirement for mitigation relates to the Conservation of Habitats and Species Regulations 2010 (the 'Habitats Regulations') which set out how Local Planning Authorities must deal with planning applications that have potential to impact on Special Protection Areas and other European protected sites.

7. Conclusions and next steps

7.1 Conclusions

The current study updated the existing evidence base relating to the impacts of marine recreational activities on conservation features based on a literature review and stakeholder consultation. Using this evidence, generic (i.e. non-site specific) assessments of the significance of impacts on features and Conservation Objectives were undertaken, to help inform conservation advisors about the requirement for subsequent management of activities. Of particular interest, was whether there was any evidence to indicate threshold levels of the activities which may lead to significant impacts. However, no evidence relating to such threshold levels of activity was sourced. The level of activity which may result in significant effects will depend on a range of site-specific factors, the consideration of which was not possible within the scope of this study. It is recommended that the assessments presented are used as generic guidance only, and that the likelihood of impacts at any given site is considered further, for example, incorporating site-specific criteria such as the frequency and intensity of disturbance, the sensitivity of the feature and its level of habituation to the pressure and cumulative and in-combination effects of different activities.

The potential impacts of certain activities (for example, motorised watercraft use) are well studied and the resulting knowledge has helped to underpin good practice advice on how to minimise such impacts. However, the impacts of some other activities (for example paddlesports, PWC, hovercraft, diving (in the UK), kitesurfing, drones, non-motorised land vehicles) have been less well studied and the impacts of such activities were inferred from the evidence base for activities where similar pressures are exerted.

The assessments showed that some of the activities could have an observable/measureable effect on features that could potentially, or even certainly, compromise Conservation Objectives. However, based on expert judgement, it was considered that where management measures which would be considered current good practice are applied to the activities, adhered to and enforced, the likely risk of significant impact on a site's Conservation Objectives would be low, in relation to all activity/pressure impact pathways.

Whilst examples of good practice management were evident from many of the case studies, and comprehensive good practice messages exist for some activities (e.g. boating, wildlife watching, kayaking) and are widely disseminated by the National Body, scope remains to develop clear concise good practice messaging for other activities to help mitigate any environmental impacts. Furthermore, for all activities, there was scope for better monitoring of the uptake of and adherence to good practice messages and to review the information collected to improve the effectiveness of both engagement processes and good practice messaging. Natural England and other members of the MPA Management National Steering Group could work with NGBs to develop better monitoring and review arrangements as part of a more comprehensive system of environmental management of recreational pressures and impacts.

7.2 Next Steps

This initial work will be taken forward by Natural England and the MMO, who will seek to keep the Management Toolkit updated, to enable it to be a useful tool for stakeholders responsible both for managing and representing marine recreational activities. Furthermore, Natural England and the MMO will engage further with National Bodies and members of the MPA Management National Steering Group to maximise the effectiveness of voluntary management measures via good practice messaging.

Abbreviations

CO	Conservation Objective
CoC	Code of Conduct
EMS	European Marine Site
IPENS	Improvement Programme for England's Natura 2000 sites
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zone
MMO	Marine Management Organisation
MPA	Marine Protected Area
NGB	National Governing Body
NGO	Non-Governmental Body
NSG	National Steering Group
PSG	Project Steering Group (Natural England and the MMO)
PWC	Personal Watercraft
PWP	Personal Watercraft Partnership
RNLI	Royal National Lifeboat Institute
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SIP	Site Improvement Plan
SMWWC	Scottish Marine and Wildlife Watching Code
SNCB	Statutory Nature Conservation Body
SNCO	Special Nature Conservation Order
SNH	Scottish Natural Heritage
SPA	Special Protection Area

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Appendix A – Call for Evidence circulated on the CMS network

Evidence and Management for Marine Recreational Activities – Call for Information

Do you have information on the impact (or lack of impact) of recreational activities on the marine environment?

Do you have information on the effectiveness of management measures to reduce the impact of recreational activities on the marine environment?

If so, we would like to hear from you.

ABPmer have been commissioned by Natural England and the Marine Management Organisation to review the evidence base on the environmental impacts of marine and coastal recreational activities and the effectiveness of different management measures.

The study will:

1.   Update and collate the evidence base on the impacts of recreational activities

2.   Review the effectiveness of management measures for recreational activities

3.   Provide suggestions, working with national stakeholders, to develop national good practice messaging for recreational users

The study focusses on impacts relating to intertidal/seabed abrasion, visual disturbance and noise disturbance for the following activities:

- motorised recreational vessels (powerboats, yachts)
- hovercrafts
- motorised personal watercraft (jet ski)
- towed watersports (e.g. waterskiing)
- wildlife watching (from land or sea)
- sailing vessels without engines (e.g. dinghy)
- non-motorised landcraft (sand yachting, kite buggying and landboarding)
- coasteering
- motorised vehicles (e.g. quad bikes, scramble bikes, cars)
- boardsports (e.g. surfing, kayaking, kite surfing)
- paddlesports (e.g. paddle boarding)
- diving and snorkelling
- general beach leisure (including rock-pooling and swimming),
- light aircraft
- drones

The project will be carried out between November 2016 to March 2017.

The outputs of the review will include published guidance notes on the potential impacts, risks and management of different activities and a detailed toolkit including case studies to help guide future work engaging with recreational users on the management of MPAs.

During the review ABPmer will be approaching stakeholders directly for their feedback. They also welcome any organisations or individuals to get in touch with any evidence (empirical or anecdotal) on the impacts (or lack of impact), of the above activities on the marine environment potential options for managing the activities and the effectiveness of management measures.

If you would like to get in touch with the project team, please contact the Project Manager – Caroline Roberts– at ABPmer by email croberts@abpmer.co.uk.

Note:

Natural England (NE) is the government's advisor on the natural environment whose role includes providing advice on the potential environmental impacts and management of recreational activities in the marine environment, particularly with regard to impacts on designated features of Marine Protected Areas (MPAs) and the implications for meeting the Conservation Objectives of those sites.

The Marine Management Organisation is an executive non-departmental public body, sponsored by the Department for Environment, Food & Rural Affairs. They licence, regulate and plan marine activities in the seas around England and Wales so that they're carried out in a sustainable way.

Appendix B Organisations that responded to the Call for Evidence

Organisation
Bembridge Harbour Authority
Cornwall Seal Group Research Trust
Cornwall Wildlife Trust
Bangor University (PhD student)
Eastern IFCA
Environment Agency
Essex Coastal Officer
Exe Sailing Club
Fowey Harbour Commissioners
Green Fins
Historic England
Homes for Whales
Individual
Individual
Individual
Individual
Kent Wildlife Trust
Leading Lights Training & Development
Lincolnshire Wildlife Trust
Malvern Archeological Diving Unit
Marine Biological Association
National Trust
Natural England
Peel Ports
Pembrokeshire Coastal Forum
Plymouth University
Portsmouth University
RSPB
RYA
Pembrokeshire Marine Special Area of Conservation
Sailing Barge Association
Sea Change Sailing Trust
Severn Estuary Partnership & European Marine Site Officer
Snowdonia-Active
Solent Forum
St Marys Seal Watch
Surrey University
The Wash and North Norfolk Coast European Marine Site
Watertrek
York University

Appendix C – Stakeholders invited to engage in consultation exercise for Objective 2

Table C1 shows the stakeholder groups and organisations that were invited to engage in the project

Stakeholder Group	Organisation	EMS or area of jurisdiction/operation/interest	Interviewed
European Marine Site Officers	Exe Estuary Management Partnership	Exe Estuary	
	East Riding of Yorkshire Council	Flamborough Project Officer	Yes
	Humber Nature Partnership	Humber Estuary	
	Morecambe Bay Partnership	Morecambe Bay	
	Plymouth City Council	Plymouth Sound & Estuaries	Yes
	Cardiff University	Severn Estuary	
	Solent Forum	Solent Maritime	Yes (two stakeholders)
	Solway Firth Partnership	Solway	Yes
	Parks and Countryside, IOW	South Wight Maritime	
	Thanet District Council	Thanet Coast	Yes
	Eastern IFCA	Wash & North Norfolk Coast	Yes
Statutory Nature Conservation Body	Natural England	Berwickshire & North Northumberland Coast	
		Berwickshire	
		East Midlands	
		East Yorkshire and Hull	
		Exe Estuary	Yes
		Flamborough Head	
		Humber Estuary	
		Morecambe Bay	
		Norfolk and Suffolk	Yes
		Pagham Harbour	
		Plymouth Sound & Estuaries	
		Severn Estuary	
		Solent	Yes
		Solway	
		South Wight Maritime	
		Stour & Orwell Estuaries	

		Teesmouth & Cleveland Coast	
		Thanet Coast	Yes
		Wash & North Norfolk Coast	
		Lundy Island	
		Poole Harbour	
		Studland/Poole Bay	
		Fal and Helford	
		Pagham Harbour/Chichester Harbour	
		Suffolk Coast	
		Beach Head MCZ	
		Medway/Swale	
		Dee Estuary	Yes
		Ribble and Alt Estuaries	
		Devon and Cornwall	
	Scottish Natural Heritage	Scotland	Yes (two stakeholders)
	Natural Resources Wales	Wales	
Regulator	Marine Management Organisation*	Northern	
		Eastern and South Eastern	
		South Western	
		Marine Conservation Team	
MPA Management National Steering Group	LGA Coastal Special Interest Group	England	
	EA		
	Association of IFCAs		
Environmental NGOs	Marine Conservation Society	UK-wide	
	The Wildlife Trusts	UK-wide	
	Cornwall Wildlife Trust	Cornwall	Yes (two stakeholders)
	RSPB	UK-wide	Yes
Other stakeholders	WiSe	UK-wide	Yes
Coastal Forums	Thames Estuary Partnership	Thames	Yes
Statutory Harbour Authorities	Associated British Ports	England, Wales, Scotland	
	Peel Ports	England, Scotland	
	Poole Harbour Commissioners	Poole	

	Port of London Authority	Inner and Outer Thames	
	Milford Haven Port	Milford Haven	
	Langstone Harbour Authority	Langstone (in Solent EMS)	Yes
Local Authorities	Cornwall Council	Cornwall	Yes
	Wirral Council	Wirral	Yes
* Regulators including the MMO and the Association of IFCAs were contacted. Initial discussions with respondents indicated that the information held was not within the scope of this study and hence no consultation interviews were undertaken. See Appendix D for National Bodies invited to engage in consultation			

Appendix D: National Bodies consulted for Objective 3

Table D1 shows the National Governing Bodies, Training Organisations and Membership Organisations that were invited to engage in the project.

Table D1 National Bodies that were invited to engage in the project

Organisation	Status	Interviewed
British Marine Federation	Membership Organisation	
British Canoeing	National Governing Body	Yes
British Hang Gliding and Paragliding Association	National Governing Body	
British Kite Sports	National Governing Body	
British Stand Up Paddle Association	Membership Organisation	(Yes – representative for British Canoeing also)
BSAC	National Governing Body	
Civil Aviation Authority	National Aviation Regulator	Yes
Hovercraft Club of Great Britain	National Membership Organisation	Yes
National Coasteering Charter	Advisory Organisation	
PADI	Training Organisation	Yes
Personal Watercraft Partnership	Partnership of bodies involved in the PWC industry (manufacturers, RYA, BMF, security and insurance brokers)	Yes
Royal Yachting Association	National Governing Body	Yes
Surfing GB	Membership Organisation	

Appendix E: Questionnaires emailed to stakeholders to guide stakeholder interviews

A wide range of stakeholders were contacted for this study. The initial list of stakeholders to contact was drawn up in collaboration with the Project Steering Group (PSG). Additional key stakeholders were contacted as advised by other stakeholders within the time and resources available to the project team.

All stakeholders were initially contacted via email, which contained a brief introduction to the project and a questionnaire document that provided further detail about the information of interest for the study. The questions were customised for each stakeholder group to help ensure that information relevant to all of the study objectives was captured. The questions sent to and discussed with the different groups of interviewees are shown below.

E1. Questions emailed to European Marine Site (EMS) Officers, Statutory Nature Conservation Bodies, MMO Coastal Officers and MPA Management National Steering Group Members

The aim of this exercise is to gather case studies, through consultation with Natural England site leads, European Marine Site project officers and other stakeholders, **to identify different management options for marine recreational activities that have been applied and investigate the effectiveness of these through discussion with relevant stakeholders/user groups**. Particular aim is to capture non-published information (published information on management options and effectiveness will be signposted in the report)

Recreational activities of interest (see definitions at end):

- Boardsports with sail (kite/windsurfing)
- Boardsports without sail – surfing
- Coasteering
- Diving/snorkelling
- Drones
- General beach leisure
- Hovercraft
- Land vehicles (motorised and non-motorised)
- Light aircraft
- Motorised personal watercraft (Jet ski)
- Non-motorised water craft (includes sailing without engine e.g. dinghy sailing and paddlesports)
- Motorised watercraft (power boating and sailing under engine)
- Wildlife watching (from vessels and land)

Note – anchoring/mooring of recreational watercraft vessels is not within the scope of the study.

Pressures of interest:

- Abrasion/disturbance of the substrate

- Visual disturbance
- Noise disturbance (above and below water)

Questions for discussion:

1. Any information about disturbance from recreational activities in your site/area e.g. monitoring, reports etc?
2. Recreational activities of most concern (if possible, please rank the activities in order of concern with respect to impacts on conservation features (from abrasion/visual/noise disturbance; 1 = most concern) for activities that occur in your site/District)
3. Intensity (any indicative quantitative estimates?) and Frequency (e.g. occasional, intermittent, regular etc.) of those activities?
4. Evidence of impact or lack of impact of activities (beyond published literature)?
5. Management measures/options for all marine recreational activities listed that have been applied
6. Effectiveness of management measure (opinion, monitoring data, reports etc)?
7. Any key stakeholders we should contact to help assess the effectiveness of the management option(s) with?
8. Any examples of (or opinion on) development of 'good practice' messaging for recreational sea users, for example, developed in collaboration with national representative bodies

Recreational Activity Definitions and Groupings in the report

Category	Definition
Boardsports with sail (kite/windsurfing)	Wind-based watersports using a kite or sail to propel the board
Boardsports without sail – surfing	Watersports using a board (without a kite or sail) to ride surf waves. The activity group includes surfing, bodyboarding and kneeboarding.
Coasteering	Coasteering is an activity that involves traversing along the intertidal, subtidal and supralittoral zones, using a combination of scrambling, walking, and swimming to complete the journey, without the aid of boats, surf boards or other craft. It often involves a series of jumps into deeper water.
Diving/snorkelling	Swimming either underwater or on the surface, using Self Contained Underwater Breathing Apparatus (Scuba) or snorkelling equipment.
Drones	Unmanned aircraft systems (UASs) or unmanned aerial vehicles (UAVs), commonly known as drones are aircraft without a human pilot aboard.
General beach leisure	Activities undertaken on the foreshore including beach games, beachcombing, rockpooling, and swimming.
Hovercraft	A hovercraft, also known as an Air-Cushion Vehicle (ACV), is a craft capable of travelling over land, water, mud or ice and other surfaces.

Land vehicles (motorised and non-motorised)	Motorised: The use of motorised vehicles including quad bikes, scramble bikes or cars on the foreshore. Non-motorised: The use of non-motorised beach craft including sand yachting, kite buggying and landboarding.
Light aircraft	This group of activities includes all types of craft used for recreation in the air e.g. small planes and helicopters, microlights, paramotors, hang gliding.
Motorised personal watercraft (Jet ski)	A personal water craft (PWC) is a recreational watercraft that the rider rides or stands on, rather than inside of, as in a boat. Models have an inboard engine driving a pump jet that has a screw-shaped impeller to create thrust for propulsion and steering. Often referred by the brand names such as Jet Ski.
Non-motorised water craft (includes sailing without engine e.g. dinghy sailing and paddlesports)*	Sailing without an engine: A dinghy, day boat or other small keelboat without a motor, usually taken out of water at end of use. Paddlesports: Generic term for a range of watersports which involve the use of a paddle for propulsion. This includes sea kayaking, surf kayaking, sit-on-top kayaking, Canadian canoeing and stand up paddle boarding (SUP).
Motorised watercraft (power boating and sailing under engine)	The use of motorised vessels, including motorboats (powerboats) and yachts, in marine waters. This category also includes watersports that are towed behind a motorised vessel including wakeboarding, waterskiing and parascending.
Wildlife watching (from vessels and land)	Activity includes viewing a range of marine species such as marine mammals, basking sharks and birds either from the land or water.

E2 Customised questions sent to other stakeholders (e.g. Non-governmental bodies, Coastal Forums, Harbour Authorities and Local Authorities):

1. Recreational activity(ies) of most concern with respect to impacts on conservation features
2. Management measures/options for the activities listed that have been applied (e.g. in the area of England/the UK that your work focusses on)
3. Effectiveness of management measure(s) (opinion, monitoring data, reports etc)?
4. Any other stakeholders or key user groups we should contact to discuss the effectiveness of management measure(s)?

E3 Customised questions sent to National Bodies:

1. Activities covered by the national representative body / organisation
2. Any high level national statistics on activity participation rates in England and 'hotspots' of activity that are not publicly available?
3. What do you consider to be the potential impacts of the activity, including the top risks? Any recent evidence (or opinion) on the impact, or lack of impact, of the activity?
4. Management options that have been applied to the activity that your members undertake (e.g. byelaws, voluntary agreements, CoCs, awareness programmes etc in specific areas) and effectiveness of these measures (opinion, anecdotal, monitoring data etc) in influencing users and minimising any impacts
5. Any good practice messaging for members? How promoted to members and good methods of engaging members (e.g. educational material, training courses, workshops, accreditation etc.), adherence levels?
6. Any potential opportunities for cross-sector/organisational collaboration in raising awareness to maximise the efficiency of delivering key messages across activities e.g. which operate in similar areas/ have similar potential impacts etc. Interest in doing so?
7. Are you happy to be contacted by Natural England to be informed of the project outputs and engage in the work as it is taken forward?

Appendix F New Management Initiatives

Stakeholder consultation provided example case studies of management which had been applied to marine recreational activities to minimise any environmental impacts and gathered stakeholder opinion on how effective the management measure was perceived to be. However, some of the management initiatives were relatively new or ongoing and hence it was too early to gather any opinion or evidence relating to their effectiveness Such initiatives, which may provide useful information in the future regarding the effectiveness of such measures, are shown below.

Site	Organisation(s)	Activity	Management Option	Additional information
Multiple RSPB reserves	RSPB	Light aircraft (disturbance of nesting terns)	The RSPB have taken multiple approaches to trying to minimise disturbance including: provision of notice to airmen; meeting with individuals; provision of guidance to airfields; marking of bird areas, backed-up with formal letter with respect to disturbance under the Wildlife and Countryside Act	The RSPB are currently pulling together good practice to see how successful the approach has been
Solent EMS Exe Estuary EMS Thanet Coast EMS Plymouth Sound and Estuary EMS		All marine recreational activities	Education and enforcement via Mitigation Officers. The primary function of the wardens will be education and raising awareness, enforcement as required and implementing monitoring schemes	Projects specifically to monitor and mitigate the impact of an increased population and recreational use of the coast arising from housing developments in each of the areas. The local authorities have received funds from the associated housing developments to develop and implement mitigation strategies in relation to the requirements of the Habitats Regulations.
Solent EMS	Solent Forum	Paddlesports	Some paddlesport activities in the Solent EMS have the potential to access sensitive sites at sensitive times of the year with the potential to cause substantial bird disturbance. Local	

Site	Organisation(s)	Activity	Management Option	Additional information
			harbour authorities requested general information from the Solent Estuary Forum regarding bird disturbance, which they could then customise for the local circumstances from their local knowledge e.g. add site specific maps.	
Pembrokeshire	Pembrokeshire Coastal Forum (PCF)	Multiple	Pembrokeshire Marine Code App (launched late 2016). The app shows all of the marine code maps to help users plan trips – e.g. coast path walk, kayaking, so they know which areas are sensitive when planning their activity. It also promotes how to interact with the environment whilst minimising impacts. The app also enables the user to record wildlife sightings and invasive species.	The app presents information and educational resources in a format easier for the PCF to change and update, making the resources more dynamic. Designed to get users attention and entertain people. Whilst a lot of information was created for instructors it is designed to be accessible for any user. Feedback from instructors is that they like the app. The app will be promoted going into the visitor season in 2017 through a collaboration of local tourism organisations, the National Trust, conservation bodies etc.