Marine Management Organisation

Non-licensable Activity Impacts on Marine Protected Areas (MMO1136)

MMO1136: Non-licensable Activity Impacts on Marine Protected Areas

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Executive Summary

Vision: The MMO has an obligation under the Marine and Coastal Access Act (2009) to further the conservation objectives of Marine Protected Areas (MPAs), and through marine planning policy, to directly or indirectly manage non-licensable activities.

Science needs: There is an evidence gap with respect to the extent and intensity of non-licensable activities in MPAs. This evidence is required to inform future planning and provide data to underpin MPA site-level assessments.

Project outputs: The current project developed and implemented a three-phase strategy to generate data on the extent, intensity and trend of non-licensable activities in English MPAs. The first phase involved an online survey to generate identified MPA-specific evidence on the extent, intensity and trends of non-licensable activities. The second phase conducted a series of stakeholder workshops to validate the findings from the online questionnaire and to further develop the spatial extent of each non-licensable activity. The third phase developed a ranking exercise to identify non-licensable activities and sites of concern for future monitoring/management. The outputs of the project include a report and a series of factsheets, one for each MPA.

Project recommendations: A number of recommendations have been made to increase both the understanding of non-licensable activities and the evidence base required for the MMO to take management decisions when and where required:

Recommendation #1: To carry out further monitoring of the following six MPAs identified in the ranking exercise for potential impact on designated features from the following non-licensable activities:

1. *Coquet to St Marys MCZ: beach recreation on intertidal, infralittoral and circalittoral habitats;*
2. *Northumbria Coast SPA: beach recreation on breeding Little tern;*
3. *Humber Estuary SPA: wildlife watching from the land on Little tern and Marsh harrier;*
4. *North Norfolk Coast SPA: beach recreation and paddle sports on breeding Avocet, breeding Bittern, breeding Common tern, breeding Little tern, breeding Marsh harrier, breeding Montagu's harrier and breeding Sandwich tern;*
5. *Dee Estuary SPA: vehicle access on to the foreshore impacting breeding Common tern, breeding Little tern and over-wintering Teal;*
6. *Ribble and Alt Estuaries SPA: vehicle access on to the foreshore impacting breeding Ruff, breeding Common tern, breeding Lesser Black-backed gull and wintering Teal.*

<u>Recommendation #2:</u> The stakeholder workshop methodology developed and implemented during this project provided robust data on the extent and intensity of non-licensable activities. The use of a similar methodology is advocated for future workshops where further evidence be required for individual MPAs.

<u>Recommendation #3:</u> To obtain robust, site-specific information for MPAs with little data (e.g. those in the South and South East of England), additional stakeholder workshops should be held to encourage stakeholders in these areas to share information on non-licensable activities in their local MPAs.

<u>Recommendation #4</u>: To identify the extent and intensity of non-licensable activities in the offshore environment (such as diving, boating, sailing), a series of smaller offshore focussed workshops attended by participants with experience in offshore non-licensable related activities, may help to fill this evidence gap.

<u>Recommendation #5:</u> For a more robust evidence base, data should be collated on seasonal trends, trends in participation and membership levels of organised groups. Having a good understanding of trend data will be valuable for the MMO future impact assessments and prioritisation of non-licensable activities.

<u>Recommendation #6:</u> To ensure ground-truthing of data where an MPA is considered to be impacted by a non-licensable activity and specifically to identify whether the activity occurs across the MPA or only in certain areas.

<u>Recommendation #7:</u> To complete sensitivity analysis for non-licensable activities on designated features, through pressure – sensitivity mapping.

<u>Recommendation #8:</u> To develop a suite of measures which can be adapted to individual MPAs, but to recognise that there are some activities which are so individual and uncontrolled that management is difficult and less cost effective. Measures could include:

- *Limits on access and the zonation of vessels at sea with buoys to control distance, speed, types of vessel and the timing of activities that can be flexibly applied to any sensitive MPA.*
- *Local zoning of activities on land to limit access to sensitive areas. For example, successful schemes include the Shorebird Sanctuary exclusion zone and wardening at Gibraltar Point SPA, Lincolnshire which restricts beach access in the breeding/nesting season for little terns and ringed plover.*
- *Achieve stakeholder and public buy-in to voluntary management schemes (e.g. using codes of conduct), as these may be more effective than hard management.*
- *Increased signage/advice boards to raise public awareness of potential impacts from their activities and inform of best practice. These should be located at key access points/launch sites/car parks within the MPA.*
- *Adapt national codes of conduct for non-licensable activities to local MPA requirements.*

<u>Recommendation #9:</u> For the MMO to continue to work in synergy with other statutory bodies (e.g. Natural England, IFCAs) where possible to address non-licensable activities resulting in changes to favourable condition.

<u>Recommendation #10:</u> To continue gathering extent and intensity of activities, and to determine the pressures from those activities showing disturbance to increase the evidence base by linking with voluntary schemes and groups working around the English coastline.

1. Introduction

1.1 Background

The Marine Management Organisation (MMO) is a Non-Departmental Public Body reporting primarily under Department for the Department for Environment, Food & Rural Affairs (Defra) with cross-departmental support including from Ministry of Housing, Communities and Local Government, Department for Business, Energy and Industrial Strategy and Department for Transport. The MMO is responsible for marine planning, marine licensing, managing English fishing fleet capacity and quotas, creation of marine conservation byelaws, enforcement for protected areas, species and habitats, and responding to marine emergencies. The MMO has an obligation under the Marine and Coastal Access Act 2009 to further the conservation objectives of Marine Protected Areas (MPAs), and through marine planning policy, to directly or indirectly manage non-licensable activities.

There are 34 activities which are exempted from the requirement to have a marine licence under the Marine Licensing (Exempted Activities) Orders 2011. Non-licensable activities within MPAs (covering a range of activities, from bait collection for angling through to diving) are often not well described either in terms of their location or their intensity in time and space. This in turn makes it difficult to consider their potential impacts on protected conservation features. This project aims to develop a sufficiently robust evidence base to increase our understanding of where non-licensable activities occur in English waters MPAs. This project and builds on a number of recent MMO projects, including MMO1013 (Compilation of spatial data on marine recreation activities); MMO1043 (Compilation of spatial data on marine recreation activities: Phase 2); and MMO1064 (Modelling Marine Recreation Potential in England). It also has regard to recent work undertaken jointly by Natural England, the MMO and ABPmer on recreational activities in MPAs (NECR242).

The MMO wishes to improve the understanding of the distribution and intensity of non-licensable marine activities, and provide support to the identification of potential management measures for existing MPAs and for future MPAs (e.g. as currently proposed under Tranche 3 of the Marine Conservation Zone site designation process). The work will help to inform the Marine Conservation Team within the MMO to provide data to underpin MPA site-level assessment to ensure that the Marine Conservation Team can accurately assess impacts to MPAs. This will assist the MMO in its role to best further/least hinder conservation objectives. The evidence will also add to the MMO Marine Planning Team evidence base, supporting the development of policies in the Marine Plans. In addition, the Statutory Nature Conservation Bodies (SNCBs) such as Natural England and the Joint Nature Conservation Committee (JNCC) are responsible for assessing the sensitivity of MPA features to activity pressures and will be able to use those data in their work. Local authorities have responsibility for some non-licensable activities such as dog walking through byelaw making powers. Similarly, Inshore

Fisheries Conservation Authorities (IFCAs) can use byelaws for non-licensable activities such as bait collection.

The list of non-licensable activities included within the scope of this project is given as Annex 1. The MPAs included within the scope of this project include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) as designated under the Conservation of Habitats & Species Regulations 2017 (as amended), and Marine Conservation Zones (MCZs) as designated under the Marine and Coastal Access Act 2009 within English waters. Proposed or candidate sites are excluded.

1.2 Project Aims and Objectives

Building on an existing body of work, the main aim of the project is to develop a sufficiently robust evidence base to increase understanding of where non-licensable activities occur in English waters MPAs. The project identifies the extent of activities and at what levels of intensity they occur. This evidence will be used to inform future planning.

In order to fulfil this aim, the following objectives have been identified and agreed with the MMO:

1. create a consolidated list of non-licensable activities occurring within each MPA in the English marine area;
2. provide robust data of the spatial distribution (extent) of current non-licensable activities in MPAs in English waters (to include the intensity of each activity, and which allows comparisons between sites to be made);
3. undertake stakeholder engagement to validate the findings on the distribution and intensity of non-licensable activities.
4. carry out a ranking exercise to identify non-licensable activities and sites of concern for future monitoring/management

2. Methodology of Stakeholder Engagement

2.1 Consultees

Stakeholders can provide local knowledge on recreational activities and their intensity, as well as likely future trends in their area. Many activities are supported through clubs and the membership of formal organisations. However, other activities are organised informally and hard to quantify, with ad hoc users of the coast being unaware of the damage they may be causing to protected features. Although the coast is often promoted as an important destination for recreational activities, there is rarely any information provided together with this on the sensitivity of protected marine conservation features to particular activities.

As it is important to target as many of these recreational groups as possible, a range of relevant recreational groups and other organisations were contacted through an online questionnaire and, where relevant, were subsequently invited to proposed workshops. Organisations and groups contacted throughout the project are listed in Annex 2.

In addition, further informal consultation was undertaken by the project team when attending meetings of local coastal fora and groups, including the Humber Nature Forum, Yorkshire Marine and Coastal Biodiversity Group and The Wash and North Norfolk Marine Partnership.

2.2 Online Questionnaire

A bespoke online questionnaire was developed (using the *BOS* software system[1]) to elicit stakeholder views and information regarding the use of MPAs by non-licensable activities and their perception of the impacts on the designated features. The questionnaire was designed to capture the extent and intensity of non-licensable activities within English MPAs and their perceived impacts on designated features.

Questions allowed the respondents to state which non-licensable activities for which they have knowledge, the area with which they are most familiar (local or national), and whether they could provide information (case study evidence, maps, etc.) on the following aspects:

- spatial location and extent: whether the non-licensable activity occurred across the whole of the MPA or within a specific location(s), with further information requested for specific locations;
- intensity of activity (estimate of numbers) and in which specific locations (and confidence levels);
- timing of the activities (e.g. to assess impacts on key breeding or otherwise sensitive seasons);

[1] *BOS* software, which is used by over 300 organisations including approximately 130 UK universities plus other public bodies and companies, allows the development, deployment and analysis of surveys via the Web.

- frequency of the activity (daily, weekly, monthly – seasonal);
- confidence in their assessment, and
- evidence of an impact on designated features.

To ensure comparable results, drop down boxes with pre-defined answers were used to capture the extent and intensity of the activities. Annex 3 shows the format of the online questionnaire.

Due to the Defra consultation on Tranche 3 MCZs (May to June 2018), and to avoid cross-consultation and stakeholder fatigue, the release of the online questionnaire for MMO1136 was delayed until July 2018, and its deployment ran until the beginning of September 2018. The online questionnaire was advertised via the Communications and Management for Sustainability (CMS) website and, through the CMS, an advert was emailed directly to over 6,000 recipients. The questionnaire was also circulated via a number of coastal networks and by a direct emailing campaign to over 230 stakeholders (individuals and organisations) who specifically undertake or manage the non-licensable activities of interest in this study. The questionnaire was also promoted through the project team, IECS and MMO Twitter feeds. A list of organisations directly contacted via email and through their websites is given in Annex 2.

2.3 Data Analysis

By requesting information in the questionnaire in a standard format for Frequency, Duration and Participation, an index for 'Intensity' could be calculated (Table 1), where;

Intensity = *Frequency* × *Duration* × *Participation*

Table 1: Factors scored and used for the calculation of intensity

Frequency		Duration		Participation	
Regular/daily	4	More than 8 hours	4	More than 100	6
Regular/mainly weekends	3	4-8 hours	3	51-100	5
Seasonally	2	2-4 hours	2	21-50	4
Sporadically (e.g. monthly)	1	Less than 2 hours	1	11-20	3
Does not occur	0	Does not occur	0	6-10	2
				1-5	1
				Does not occur	0

All three factors were considered equal and therefore no weighting was applied. Seasonally for an activity was defined as where activities occurred frequently (e.g. daily) over a restricted portion of the year (e.g. April to September), and was considered to score higher in terms of frequency than a 'sporadic' activity. An intensity index (*Frequency* × *Duration* × *Participation*) was calculated for each of the 175 possible

response combinations, generating 29 distinct index values ranging from 0 to 96. A 5 category intensity scale was used to classify these resulting index values (Table 2).

Table 2: Intensity Values

Overall intensity index score	Intensity	Combination of Scores
0	Does not occur	0 in all categories (does not occur)
1-8	Low intensity	Generally a score of 2 or below in each of the three categories (though one score could potentially be as high as a 6 if the other 2 are 1)
9-20	Low-Med intensity	A combination of low and medium values
24-40	Med-High intensity	A combination of low, medium and high values
45-96	High intensity	Scored in the top two in all three categories

- The frequency distribution across these 29 values was analysed to show how many times a value was calculated.
- Where an MPA had more than one return, and the responses were different, then the answer relating to the higher confidence level was selected (see below). The respondent's job/activity experience was also taken in to account.

Intensity calculations could not be generated if one or more of the answers providing Frequency, Duration, or Participation data were missing from the questionnaire return. The Duration of a given activity was the only variable considered to be consistently independent of MPA location. Therefore, if an 'unsure/don't know' answer was given for a particular activity, then an average value from all other questionnaire responses could be used (e.g. the average flight time of a drone is less than 2 hours). Both the *Frequency* of an activity and *Participation* numbers are dependent on the specific characteristics and location of the MPA and therefore no value was calculated.

To summarise the information provided, a factsheet was generated for each MPA which detailed the site designations, the extent (across the whole site, across specific areas of the site or, does not occur) and the intensity of activities. Future trends in activities were also noted, based on whether the stakeholders felt an activity would increase or decrease in popularity or stay the same over the next 2 years. Stakeholders were asked to provide any factors/information that they used to make their assessment. Information was also recorded on current management at the site together with any issues of concern for the designated features from the non-licensable activities. Each stakeholder was asked to provide a confidence rating of high, medium or low for the data provided for each activity.
Stakeholder workshops were used to validate the online questionnaire responses.

2.4 Regional Stakeholder Workshops

In order to carry out validation of the online questionnaire results, four regional stakeholder workshops were organised around England to gain stakeholder views. These were held in:

- Kings Lynn, Norfolk (23 October 2018) – to cover East and South East MPAs between Flamborough to Folkestone.
- Cullercoats, Newcastle (13 November 2018) – to cover North East MPAs between Berwickshire to Flamborough.
- Lancaster, Lancashire (14 November 2018) – to cover North West MPAs between the Dee Estuary to the Solway.
- Exeter, Devon (20 November 2018) – to cover South and South West MPAs between Folkestone and the Severn Estuary.

In addition, an individual meeting was held with the Flamborough Head Project Officer to validate the responses for the Flamborough Head SAC (10 December 2018). There was also local stakeholder interest to complete the validation process for the Humber Estuary SAC and SPA, but most stakeholders were unable to attend either the NE or E workshop. Consequently, an additional stakeholder workshop was held specifically for the Humber Estuary (13 December 2018) and drew upon the members of the Humber Estuary Recreational Group (a task group under the Humber Management Scheme).

As a well-defined participatory approach, the workshops provided stakeholders with the opportunity to validate the results and ensure the distribution, intensity and potential impact of non-licensable activities in specific MPAs was being accurately represented. Stakeholders who completed the online questionnaire, and expressed a further interest in the work, were invited to attend one of the workshops, together with a number of other organisations to try to get a good representation of the spatial extent and intensity within specific English MPAs of the 21 non-licensable activities. Workshop numbers were limited to 30 people (including 3 facilitators) to ensure productive sessions.

Stakeholders were asked in advance of each workshop to confirm which of the specific MPAs they could provide evidence for. Additionally, if there was an MPA they knew particularly well but which was not covered in the questionnaire returns, they were asked to inform the project team so that additional maps could be prepared and taken to the workshop.

The regional workshops all adopted the same format, and provided a forum to sense-check and validate both the questionnaire results and previous mapping exercises. As the online questionnaire returns did not indicate the full ‘extent’ of non-licensable activities in most MPAs, the workshop format was developed in order to allow the extent to be mapped, and to allow stakeholders to discuss intensity and possible impacts of non-licensable activities.

The workshops were each organised into four sessions:

Session 1: Introduction. The aims and objectives of the project and the workshop were introduced (see slides in Annex 4).

Session 2: Spatial Distribution. The pre-selected MPA maps, printed at size A0 or A1, were placed on tables in broad geographic groups, with stakeholders invited to choose their area(s) of interest. By using the factsheets derived from the questionnaire returns as a guide, the stakeholders were asked to map the spatial extent of the 21 non-licensable activities. By developing their own annotated key, stakeholders were asked to draw areas/extents of the occurring activities on the maps. Additional information including access points, car parks and launch sites (formal and informal) were also mapped. A facilitator on each table captured additional information from the stakeholders on seasonality, organised activities and impacts. Stakeholders were asked to move between tables to ensure that they were able to contribute to all of the MPAs for which they had knowledge.

Session 3: Intensity and Trends. Following an introduction to the session (see Annex 4), the intensity and future trends of the 21 non-licensable activities were validated for each MPA using the data derived from the questionnaire returns. Each table facilitator took the group through the MPA factsheets to assess whether the workshop stakeholders either agreed with the online survey data or whether they needed to amend the intensity information provided. This session also provided the opportunity for stakeholders to complete any missing information required to calculate intensity (e.g. participation numbers, how often the activity was carried out and for what duration). Confidence levels in their answers were recorded together with the number of stakeholders contributing to the validation. Where available, future trend information of each non-licensable activity was also validated with stakeholders asked to indicate whether a current activity would increase, decrease or remain the same in popularity within the MPA over the next 2 years. Where a stakeholder had knowledge of an MPA not addressed by the online questionnaire, a new intensity proforma was completed.

Session 4: Discussion of Impacts. The final session of the day was an open plenary discussion. The concept of activity, pressure and sensitivity was used to introduce the theme of impacts (see Annex 4) with the stakeholders asked to discuss which activities they considered to be causing the greatest impacts on designated MPA features. This led to an open discussion where stakeholders had the opportunity to raise any points they wished regarding non-licensable activities and their potential impacts on MPAs. Stakeholders were asked to consider which MPAs are most at risk from non-licensable activities if management is not put in place. Facilitators captured notes of the discussions.

Stakeholder attendance and feedback from the workshops is recorded in Annex 5.

2.5 Mapping

All the extent information derived from the workshop maps (see for example Figure 1) was subsequently digitised into ArcMap Geographic Information System (GIS), using low water and high water boundaries from Ordinance Survey Open Data for digitising coastal activities and the MPA boundary for mapping full extent activities. Each polygon was digitised in British National Grid but projected in ETRS1989 with the following metadata:

- Activity: using standardised activity names
- Location: MPA and any specific location
- Seasonality: information captured on when or when not the activity can occur
- Notes: specific information attached to the extent and type of activity at that location
- Source: MMO1136 (regional) stakeholder workshop or other data source e.g. Seasearch data for Scuba diving extent.

Data for each activity present in an MPA were then separated into layers and converted into layered pdf format. Interactive PDF software, where individual activity layers can be turned on and off to show extent (see for example Figure 2), was used to display each non-licensable activities occurring in each MPA. Each MPA pdf principally presents new workshop-derived extent information, but in addition, incorporates Seasearch data for SCUBA diving sites, Royal Yachting Association (RYA) data for general boating extent, and IFCA bait collection areas (2016-2018). These supplementary data layers were used on the advice of stakeholders as the best data available.

The GIS data contains additional information not presented on the interactive maps including:

- Access points for water based activities, car parks and foot access to the coast.
- Sensitive areas for management (e.g. important bird nesting areas)
- Restricted access (e.g. MOD land)

Figure 1: Example stakeholder-derived activity maps from the East MPAs workshop

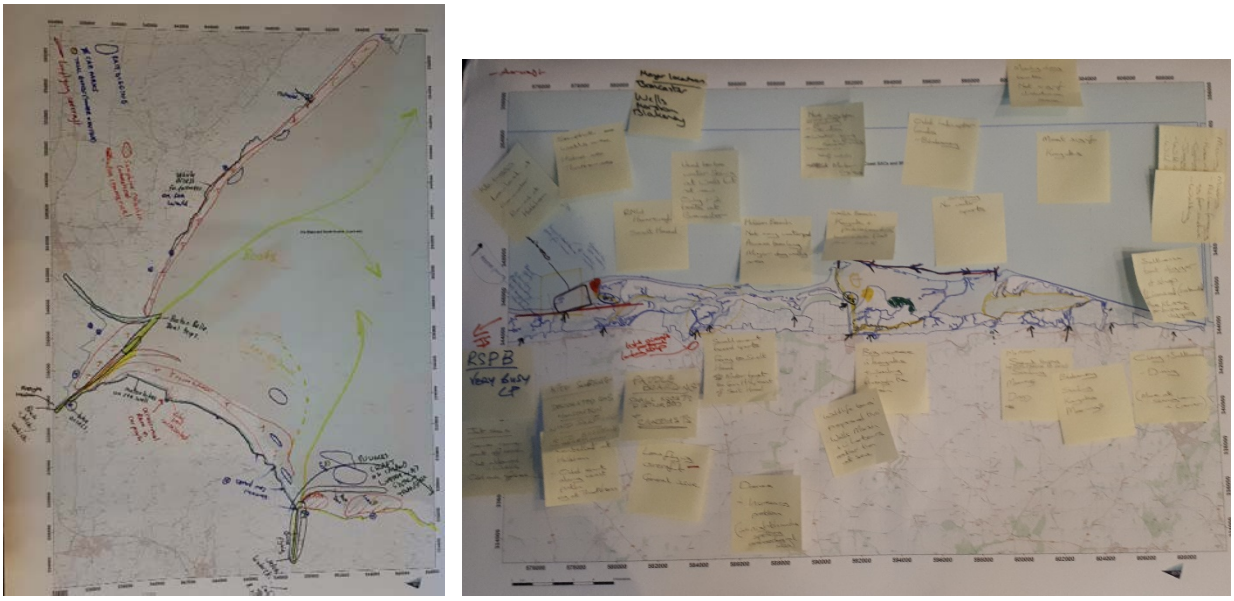
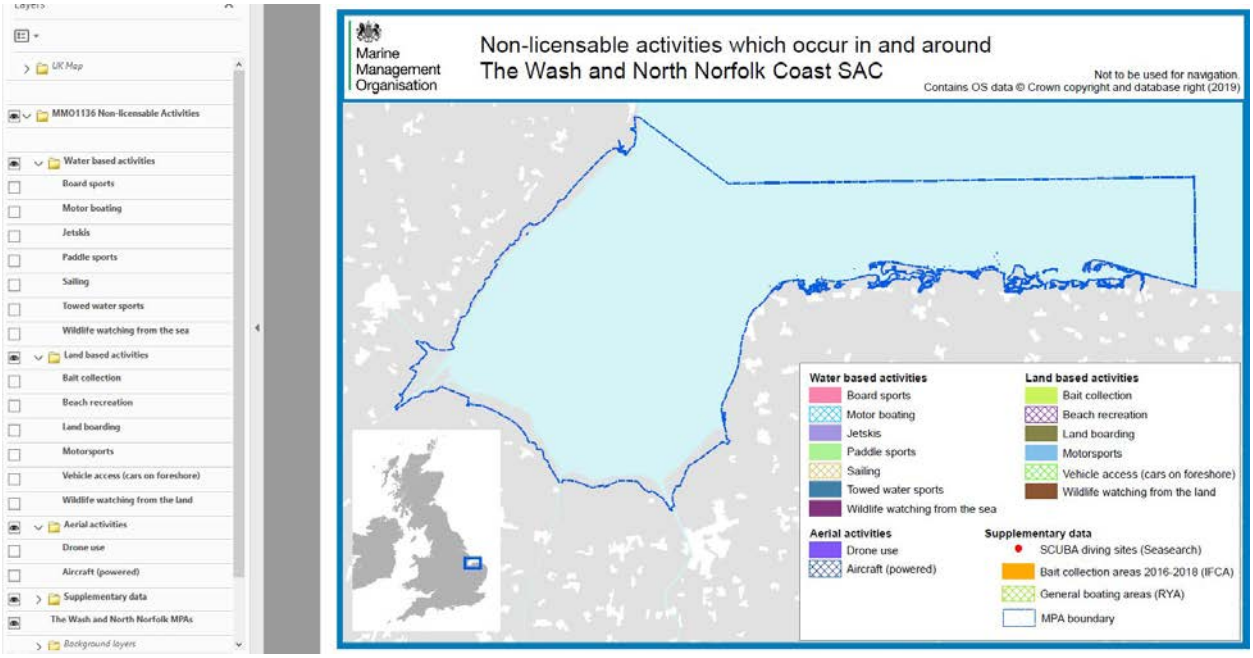


Figure 2: Example interactive PDF for the Wash and North Norfolk Coast SAC



3. Results of Stakeholder Engagement

3.1 Questionnaire Response

The questionnaire was completed by 78 individuals/organisations covering non-licensable activities in 54 of the 192 MPAs designated in English waters (Annex 6). The responses ranged from individual responses on a single MPA, to a maximum of 7 people answering on the same MPA (The Wash & North Norfolk SAC); 12 people completed the questionnaire for two or more MPAs.

Most of the responses were for coastal and estuarine MPAs, with evidence provided for only two offshore MPAs (Liverpool Bay SPA and Shell Flat & Lune Deep SAC). The online questionnaire did raise awareness of the consultation and identified stakeholders who wanted to consult further through the one-day workshops, even if they could not complete the online questionnaire.

Although the online questionnaire provided robust data for intensity, the spatial extent of the 21 non-licensable activities within the English MPAs could not be easily captured using the online survey. Therefore, the workshops were required to collate the existing data and to gather further evidence.

Factsheets were created for each MPA return, displaying the data recorded on the general extent of the activity (whether the activity occurred across the whole site or in specific areas) and the intensity of the activity (duration, participation and frequency). Information on current management actions and impacts was recorded, together with the number of responses per MPA.

3.2 Stakeholder Engagement Workshops

3.2.1 East and South East MPA Workshop

The East and South East Workshop was held in Kings Lynn on 23 October 2018 and was attended by 19 stakeholders from a range of backgrounds. The MPAs were pre-selected by the stakeholders before the workshop based on their expertise and local knowledge. Activity maps and intensity information were generated for the following 6 sites:

- Gibraltar Point SPA
- Cromer Shoal Chalk Beds MCZ
- North Norfolk Coast SAC and SPA
- Wash & North Norfolk Coast SAC
- The Wash SPA
- Stour & Orwell Estuaries SPA

With the Wash and North Norfolk Coast SAC having a significant overlap with The Wash SPA and North Norfolk Coast SAC and SPA, the coastline from the Lincolnshire side of the Wash around to the North Norfolk coastline was printed on a series of continuous maps. The maps were divided between stakeholder tables so activities in specific areas were only mapped once. Stakeholders were asked to move around tables so that they could contribute to more than one map.

The discussion session raised the following points specifically related to the East and South East MPAs:

- The Wash and North Norfolk coastlines are a good example of the differences in users, as the Wash is still seen as a wilderness (largely due to limited access) whereas the North Norfolk coast is not, primarily due to an increase in people accessing the area (and concomitant increase the recreational activities being undertaken). It was suggested that perhaps areas of the coast should be closed off to public access.
- Questions were raised regarding dog walking and why this was not included in the project as this is seen as the major issue of concern along this stretch of coastline. It was explained again that this was outside the remit of the MMO and therefore outside the remit of this project.
- There are concerns regarding the English Coastal Path and the way it will inevitably attract more visitors to the east coast and therefore increase pressure on the natural environment.

3.2.2 North East MPA Workshop

The North East Workshop was held at the Dove Marine Laboratory, Cullercoats on 13 November 2018 and was attended by 18 stakeholders. This workshop was run in conjunction with Dr Paula Lightfoot (Newcastle University), who is conducting research on behalf of Natural England focussing on recreational activities in MPAs in the north east of England. This project complements the research being conducted by IECS (University of Hull) for the MMO by providing finer scale information about the local area.

The MPAs were pre-selected by the stakeholders before the workshop based on their expertise and local knowledge. Activity maps and intensity information were generated for the following sites:

- Aln Estuary MCZ
- Berwickshire and North Northumberland Coast SAC
- Coquet to St Mary's MCZ
- Lindisfarne SPA
- Northumbria Coast SPA
- Teesmouth and Cleveland Coast SPA
- Flamborough Head SAC and Flamborough Head and Bempton Cliffs SPA

With the significant overlap in the Northumbria Coast SPA with other MPAs along this coastline, the Northumberland coastline was printed off on a series of maps between Berwick and the Tees Estuary with non-licensable activities mapped along the coastline.

The discussion session raised the following points specific to North East MPAs:

- For coasteering to occur in the north east (and elsewhere along the English coast), landowners would need to get consent to manage commercial activities in designated areas such as SSSIs.
- There is a need to monitor the potential impact of the coastal path along the north east coastline as this could attract more visitors to the area and thus increase the intensity of recreational pressures.
- Jetskis are a problem along this coastline and elsewhere along the English coastline. They can cover a large distance in a short time, are very noisy and often deliberately chase birds around the water. They are now larger and heavier (4 stroke engines) and therefore require better access using a trailer down a slipway. This could be a way to manage the activity within impacted MPAs by restricting their access to the coast.

3.2.3 North West MPA Workshop

The North West Workshop was held in Lancaster on 14 November 2018 and was attended by 10 stakeholders. The group divided between three tables and worked on A1 maps of 13 MPAs pre-selected by the stakeholders before the workshop, based on their expertise and local knowledge. Activity maps and intensity information were generated for the following sites:

- Allonby Bay MCZ
- Cumbria Coast MCZ
- Dee Estuary SAC & SPA
- Drigg Coast SAC
- Liverpool Bay SPA
- Mersey Narrows North Wirral Foreshore SPA

- Mersey Estuary SPA
- Morecambe Bay and Duddon Estuary SPA
- Morecambe Bay SAC
- Ribble and Alt Estuaries SPA
- Solway Firth SAC
- Upper Solway Flats and Marshes SPA

Due to overlap in MPA boundaries, the Dee Estuary SPA and SAC were treated as one MPA for mapping purposes. Similarly, Morecambe Bay SAC was mapped as part of the Morecambe Bay and Duddon Estuary SPA with the Solway Firth SAC and Upper Solway Flats and Marshes SPA mapped as one large area. Activities occurring within the Liverpool Bay SPA were mapped as part of all other relevant MPAs.

The discussion session raised the following points specific to North West MPAs:

- With respect to wildlife watching from land, the coastal path will increase levels of this activity, which is already a popular activity in the North West.
- The north east of Liverpool has increasing development pressure which is likely to result in increased pressures from all the recreational activities. This has led to an observed increase in water-based activities and pontoon installations.

3.2.4 South and South West MPA Workshop

19 stakeholders attended the meeting in Exeter on 20 November 2018. The group divided between three tables and worked on A1 maps of 22 preselected MPAs based on their expertise and local knowledge. Activity maps were generated for the following sites:

South West Coast MPAs:

- Bideford to Foreland Point MCZ
- Falmouth Bay to St Austell Bay SPA
- Hartland Point to Tintagel MCZ
- Isles of Scilly Complex SAC (all MCZs except Bristows to Stones MCZ)
- Lands End and Cape Bank SAC
- Lizard Point SAC
- Mounts Bay MCZ
- Newquay and The Gannel MCZ
- Padstow Bay and Surrounds MCZ
- Plymouth Sound and Estuaries SAC
- Runnel Stone MCZ
- Skerries Bank and Surrounds MCZ
- Start Point to Plymouth Sound & Eddystone SAC
- Tamar Estuaries Complex SPA (inc SAC and MCZ) ([2])
- The Manacles MCZ
- Whitsand and Looe Bay MCZ

[2] The Tamar Estuaries Complex SPA was mapped for extent and intensity as part of the Plymouth Sound and Estuaries SAC.

South Coast MPAs:

- Chesil and The Fleet SAC and SPA & Chesil Beach and Stennis Ledges MCZ
- Exe Estuary SPA
- Lyme Bay and Torbay SAC
- Studland to Portland SAC

The discussion session raised the following points specific to South and South West MPAs:

- Concern was raised about the lack of contributions to particular MPAs such as Studland Bay MCZ, Lundy SAC/MCZ and the MPAs along the Dorset coast. It was recognised that the location of the workshop may have been a factor, but due to funding, only 4 workshops could be run which had to target all marine planning regions equally. The stakeholders were assured that the reporting of the project would reflect on the level of input for the mapping and intensity of activities.
- Issues were raised regarding the impact of sewage overflow from over-stretched towns along the south coast in peak season. This is perceived to cause a major impact but is not controllable by the MMO but comes within the remit of the Environment Agency.
- Some local issues were raised such as the collection of crawfish by divers.
- The Coast Path was not seen as an issue in the SW as it has been established for a number of years.

3.3 MPA Factsheets

The individual MPA factsheets created for 62 English MPAs are presented with this report and they provide a description of the MPA and its qualifying features. MPA factsheets also provide information on current management initiatives and also highlight the concerns of stakeholders regarding non-licensable activities on site features generated both through the questionnaire and workshop consultations.

The factsheets record the intensity scores for each of the 21 non-licensable activities, their general extent within the specific MPA and future trends for that activity. An indication of the confidence of the stakeholder assessment is also provided. Each factsheet notes whether the evidence is based on:

- Questionnaire feedback alone.
- Questionnaire feedback verified through the stakeholder workshop.
- New information contributed at the stakeholder workshop on an additional but relevant MPA.

The final page of the factsheet includes an interactive layered PDF of the extent of all the non-licensable activities occurring within the MPA. These data are generated from the digitised maps from the stakeholder workshops and some spatial information provided through the online questionnaire. Unfortunately, as not all 62 MPAs were included in the workshops, not every MPA factsheet includes an extent map.

3.4 Summary of Stakeholder Engagement

The project collected evidence on the extent and intensity of 21 non-licensable activities in 62 (out of 192) English MPAs, representing 32% coverage. Information was submitted for 54 individual MPAs through the online questionnaire, with a further eight MPAs included at the workshop stage. Where information was received through the online questionnaire, the features of 75% of these MPAs were subsequently validated through the workshop process. The workshop engagement process mapped the extent of non-licensable activities occurring in 49 of the 62 English MPAs (79%). Of the eight new MPAs introduced at the workshop stage, three did not have the intensity data completed due to time restrictions (Table 3).

The data collected relate to inshore (estuarine and coastal) MPAs, with only two of the 62 MPAs covered being offshore. This perhaps reflects the fact that stakeholders do not have a clear insight of what activities occur offshore. It also reflects the nature of the mainly recreational non-licensable activities covered in this work, and that these predominantly happen within the intertidal and near-shore coastal areas where people can easily access the coast and therefore participation can easily be observed.

It should also be noted that the evidence collected represents a current snapshot of the extent and intensity of these non-licensable activities. Due to the changes in popularity of some recreational activities, the spatial extent, temporal duration, frequency and intensity may change over the next few years. The trend data obtained through both the questionnaire survey and stakeholder workshops provides an initial indication of how stakeholders see the intensity of the activities changing over the next two years.

Table 3: Summary of MPA evidence collected and verified through the questionnaire and stakeholder workshops

Region	MPA	Questionnaire Response	Workshop Validation	Additional Workshop Input	Mapped Extent of Non-licensable Activities	Intensity Information Validated
North East MPAs	Aln Estuary MCZ	Yes	Yes		Yes	Yes
	Berwickshire & North Northumberland Coast SAC	Yes	Yes		Yes	Yes
	Coquet to St Mary's MCZ	Yes	Yes		Yes	Yes
	Lindisfarne SPA	Yes	Yes		Yes	Yes
	Northumbria Coast SPA	Yes	Yes		Yes	Yes
	Teesmouth and Cleveland Coast SPA	Yes	Yes		Yes	Yes
	Flamborough Head SAC and Flamborough Head & Bempton Cliffs SPA	Yes	Yes	Meeting with EMS officer	Yes	Yes

Region	MPA	Questionnaire Response	Workshop Validation	Additional Workshop Input	Mapped Extent of Non-licensable Activities	Intensity Information Validated
East MPAs	Cromer Shoal Chalk Beds MCZ	Yes	Yes		Yes	Yes
	Gibraltar Point SPA	Yes	Yes		Yes	Yes
	Humber Estuary SAC and SPA	Yes	Yes	Humber workshop	Yes	Yes
	Minsmere-Walberswick SPA	Yes				
	North Norfolk Coast EMS	Yes	Yes		Yes	Yes
	The Wash and North Norfolk Coast SAC	Yes	Yes		Yes	Yes
	The Wash SPA	Yes	Yes		Yes	

Region	MPA	Questionnaire Response	Workshop Validation	Additional Workshop Input	Mapped Extent of Non-licensable Activities	Intensity Information Validated
South East MPAs	Blackwater, Crouch, Roach and Colne Estuaries MCZ	Yes				
	Sandwich Bay SAC	Yes				
	Stour and Orwell Estuaries SPA	Yes	Yes	Yes	Yes	Yes
	Thanet Coast and Sandwich Bay SPA	Yes				
	Thanet Coast SAC & MCZ	Yes				

Region	MPA	Questionnaire Response	Workshop Validation	Additional Workshop Input	Mapped Extent of Non-licensable Activities	Intensity Information Validated
South MPAs	Beachy Head West MCZ (and East)	Yes				
	Chesil and The Fleet SAC and SPA & Chesil Beach and Stennis Ledges MCZ			Yes	Yes	
	Chichester and Langstone Harbours SPA	Yes				
	Exe Estuary SPA	Yes	Yes		Yes	Yes
	Kingmere MCZ	Yes				
	Lyme Bay and Torbay SAC	Yes	Yes		Yes	Yes
	Poole Harbour SPA	Yes				
	Solent and Southampton Water SPA	Yes				
	Solent Maritime SAC	Yes				
	Studland to Portland SAC	Yes	Yes		Yes	Yes

Region	MPA	Questionnaire Response	Workshop Validation	Additional Workshop Input	Mapped Extent of Non-licensable Activities	Intensity Information Validated
South West MPAs	Bideford to Foreland Point MCZ	Yes	Yes		Yes	Yes
	Falmouth Bay to St Austell Bay SPA	Yes	Yes		Yes	Yes
	Hartland Point to Tintagel MCZ	Yes	Yes		Yes	Yes
	Isles of Scilly Complex SAC	Yes	Yes		Yes	Yes
	Lands End and Cape Bank SAC	Yes	Yes		Yes	Yes
	Lizard Point SAC	Yes	Yes		Yes	Yes
	Newquay and The Gannel MCZ	Yes	Yes		Yes	Yes
	Padstow Bay and Surrounds MCZ	Yes	Yes		Yes	Yes
	Plymouth Sound and Estuaries SAC and Tamar Estuaries Complex SPA	Yes	Yes	Yes	Yes	Yes
	Severn Estuary SAC & SPA	Yes				
	Start Point to Plymouth Sound & Eddystone SAC	Yes	Yes		Yes	Yes
	Whitsand and Looe Bay MCZ	Yes	Yes		Yes	Yes
	Fal and Helford SAC			Yes	Yes	
	The Manacles MCZ			Yes	Yes	Yes
	Runnel Stone MCZ			Yes	Yes	Yes
	Skerries Bank and Surrounds MCZ			Yes	Yes	Yes
	Upper Fowey and Point Pill MCZ			Yes	Yes	Yes
	Mounts Bay MCZ			Yes	Yes	

Region	MPA	Questionnaire Response	Workshop Validation	Additional Workshop Input	Mapped Extent of Non-licensable Activities	Intensity Information Validated
North West MPAs	Allonby Bay MCZ	Yes	Yes		Yes	Yes
	Cumbria Coast MCZ	Yes	Yes		Yes	Yes
	Dee Estuary SAC and SPA	Yes	Yes		Yes	Yes
	Drigg Coast SAC	Yes	Yes		Yes	Yes
	Fylde MCZ	Yes				
	Liverpool Bay SPA	Yes	Yes		mapped as part of all other NW MPAs	
	Mersey Estuary SPA	Yes	Yes		Yes	Yes
	Mersey Narrows and North Wirral Foreshore SPA	Yes	Yes		Yes	Yes
	Morecambe Bay and Duddon Estuary SPA	Yes	Yes		Yes	Yes
	Morecambe Bay SAC	Yes	Yes		Yes	Yes
	Ribble and Alt Estuaries SPA	Yes	Yes		Yes	Yes
	Shell Flat and Lune Deep SAC	Yes				
	Solway Firth SAC	Yes	Yes		Yes	Yes
	Upper Solway Flats and Marshes SPA	Yes	Yes		Yes	Yes

4. Discussion of Stakeholder Engagement

A number of discussion points were raised by the stakeholders during the project and these have been summarised below. The opinions here are those of the stakeholders and not the views of the MMO nor IECS. Where necessary, clarity of the MMO position/remit has been provided.

4.1 High Intensity Activities

Mapping the location, spatial extent and intensity of non-licensable activities enables managers to identify where hotspots of multiple activities occur within MPAs, and to determine any associated pressures with designated features on a seasonal or temporal basis. This can assist in developing future planning policy and MPA management measures where and when required. Future assessments of MPAs by the planning authorities will enable the identification of activity hotspots and their overlap with sensitive features. MPAs protecting estuaries were viewed by stakeholders as some of the areas with the highest levels of non-licensable activities. The extent mapping of the non-licensable activities will allow subsequent work to derive hotspot areas and assess effects on designated features.

Of the MPAs mapped within this study, stakeholders believed that SPAs were most at risk from non-licensable activities. MPAs protected for birds were generally considered more at risk of greater impacts through visual or noise disturbance, and specifically those MPAs located close to urban areas. High tide roosts are particularly sensitive to water-based activities (e.g. kite surfing), and although this activity may not be recorded on the factsheets as being particularly intensive, the disturbance caused can be very high. It was reported at one workshop that two kite surfers were observed to continually surf around the high tide roost and cause flight disturbance to the birds for over an hour. However, it should be noted that although bird response to disturbance is usually apparent to other users, this may not reflect the actual level of impact. In contrast, the impact of commercial fishing activities on seabed habitats in an SAC or MCZ, would not be visible to other users and is therefore less-recorded, but could be much more damaging.

The workshop discussions highlighted the need for further investigation into the activities with the highest intensity (coloured red and orange on the fact sheets). Where an MPA is considered to be impacted by non-licensable activities, ground-truthing of the data would be valuable, especially to identify whether activities occur across the MPA or only in certain areas.

Although outside the scope of this project, it should be highlighted that dog walking was identified by the majority of stakeholders as the activity across all English coastal MPAs, which has the biggest potential impact on designated features. This illustrates that stakeholders do not view terrestrial and marine jurisdictions separately. Similarly, a major current topic of concern in coastal and marine management is cumulative effects assessment. The joint occurrence and potential impact of concurrent and overlapping activities, their synergistic or antagonistic behaviour and their management, often by different bodies, requires attention.

4.2 Protected Features and MPAs

Stakeholders raised concerns that the current evidence collected on non-licensable activities would only be used in an assessment against the designated features within the MPA and that other important but non-designated features (for example seal haul-out sites) would be overlooked. This illustrates that stakeholders want to see protection of the marine environment on a wider basis than the current feature-based approach which is currently used by government. This aspiration is also reflected in the Government's 25-year Environment Plan which aims to move to a whole site approach.

In addition, given that the current project focuses on mapping extent and intensity of non-licensable activities within MPAs, stakeholders would like to see the evidence used in a holistic manner addressing all features within an MPA, rather than just at the designated features. This would constitute the adoption of the Ecosystem Approach. Similarly, stakeholders proposed that all sensitive features within an MPA need protection in addition to those that are designated. Some stakeholders questioned why SSSIs and nature reserves were not included within the project, as they were considered to be MPAs by a few of the stakeholders and de facto MPAs under the MCZ projects. This illustrates a difference between stakeholder expectations and the remit of the regulatory organisations involved.

4.3 Management

One important issue repeatedly raised at the stakeholder workshops was the need to treat each MPA on its own merits given that no two MPAs are the same, either for their designated features, or the extent and intensity of activities. The importance of site-specific information needs to be accommodated, with non-licensable activities not being treated with a broad-brush approach across all MPAs. In particular, it was suggested that management efforts to address potential impacts from non-licensable activities often need to focus at the local level (e.g. at local beaches) rather than at the whole MPA level. It is a particular anomaly that such activities are not a specific requirement of an Appropriate Assessment nor subject to Environmental Impact Assessments and so could be excluded from Cumulative Effects Assessments and hence a whole-site appraisal. Given the current evidence base on the extent and intensity of non-licensable activities, a site-by-site approach to management would be the most effective approach.

Stakeholders believe the zonation of activities within an MPA is a good management mechanism to avoid non-licensable activities affecting sensitive areas and to ensure the sustainability of designated features (habitats and species). They considered that the mapping activities undertaken within this project were considered a valuable tool in developing this mechanism. The evidence generated by this project (extent and intensity) is required before impacts of activities can be assessed, as is evidence of impacts to designated features before management options such as zonation can be undertaken. Stakeholders considered that there are many unknown aspects regarding non-licensable activities and their potential damaging effects. In particular, while the activities can be mapped, as shown here, the resultant pressures (as the mechanisms of change) are more difficult to determine. In essence, the effects-footprints of the unlicensed activities have not been determined (either subjectively or objectively quantified) and so there is a lack of

understanding on what may be the most damaging non-licensable activities. If a precautionary approach is adopted, then it will be assumed that these activities do have an adverse effect unless demonstrated otherwise. It was emphasised to the stakeholders, however, that the MMO have the remit to introduce management only if there is evidence to show that a non-licensable activity is having an impact on MPA features.

At a national level, some stakeholders proposed adopting a national code of conduct for the marine environment. Although a generic country-wide code of conduct for some non-licensable activities would help to promote the same message across English MPAs (e.g. WiSE scheme for wildlife watching at sea), it was agreed that in line with the individuality of MPAs, a code of conduct would still need to be made site-specific for each MPA. Whilst some local and site-specific codes of conduct have been in place for a number of years, there are now more people participating in activities at the coast and the activities are diversifying, meaning that any existing codes of conduct should be regularly reviewed, updated and communicated.

Stakeholders felt that the adoption of voluntary management schemes (e.g. zonation and codes of conduct) could be more effective than hard management (e.g. licensing activities). Whilst it is acknowledged that stakeholders have different views regarding management, the MMOs remit is to put in management measures for MPAs only where an effect on a designated feature can be demonstrated.

4.4 User Groups

One of the key stakeholder concerns was that, even if management is implemented to reduce the impacts of non-licensable activities, no statutory body has the power to enforce this management. Regulated activities (i.e. those activities which have clubs or membership affiliations) are considered more likely to respond to management, and are likely to have their own codes of conduct, than unregulated activities (i.e. often undertaken by individuals) where no rules apply. Standards are generally set by the organisation in control of the activity. Recreational clubs and groups try to police their activities, but there is still a small minority of users who operate outside such control. For example, it is estimated that 3.5 million people participate in sailing within the UK annually, but the RYA only has 100,000 members with its associated code of conduct. An individual does not need a licence or permit to sail, and therefore anyone can take out a boat of any size. It is axiomatic that any activity that is not licensed is therefore not controlled or even recorded. Similarly, while many organisations with the potential to cause damage to the environment have a ‘duty of care’ and so come under the relevant legislation, this does not apply to non-licensable activities.

The question of how to raise awareness of potential effects of non-licensable activities on sensitive features within MPAs to individuals/ad hoc users that are not associated with a club was raised by stakeholders. Raising awareness and adopting codes of conduct for such diffuse, unrecorded and unrecordable activities will require education rather than legislation. The use of social media (e.g. Facebook, Twitter, blogs, and activity chat fora) was highlighted as being a great resource that could engage those groups who are not necessarily affiliated to a club or national organisation, and used to encourage and achieve best practice into groups at the local scale.

As part of the means of informing users, key access points to the coast should be targeted for educational signage to inform visitors of the designations that are in place and the sensitivity of the features to particular non-licensable activities. Coastal and estuarine partnerships may be best placed and have the ability to manage the diversity of activities although they would need some support, both financial and logistical. For example, a recent Natural England report highlighted the current best practice, codes of conduct and signage in MPAs around the English coast (ABPmer, 2017); however, there was concerns from stakeholders that “a lot of signage has been funded through the EU, a funding source that may be lost and so need replacing if the UK leaves the EU”.

5. Non-licensable Activities and Sites of Concern

As each English MPA is unique for its designations and the extent and intensity of the non-licensable activities occurring there, it is difficult to quantitatively rank the non-licensable activities into highest to lowest impact. In order to highlight the MPAs of potential concern, a methodology has been developed which is based on a combination of high intensity non-licensable activities, stakeholder concerns and the sensitivity of designated features within the site.

5.1 Sites of Concern Methodology

32 different pressure categories, created and agreed by the OSPAR Intercessional Correspondence Group on Cumulative Effects (ICG–C), were assessed using expert judgement, and were coded into broad importance classes based on their generic likelihood of occurrence due to non-licensable marine activities (the full list of pressures is given in Annex 7).

Pressures were then filtered and sorted (on basis of likely importance) to give a shortlist of 12 key pressures to consider. This shortlist of pressures was then cross-referenced with pressure codes (and descriptions) from the Marine Evidence based Sensitivity Assessment (MarESA). One additional pressure was included in the matrix (Abrasion/disturbance of the substrate on the surface of the seabed) and an existing pressure (Smothering and siltation rate changes) was divided into two categories of Heavy and Light, thus giving a total of 14 pressures to consider. Five of these pressures are specifically considered by Natural England within their site summaries (the Natural England Evidence Information Notes, 2017):

- Above water noise changes;
- Visual disturbance;
- Abrasion/disturbance below substrate surface;
- Underwater noise changes; and
- Abrasion/disturbance of substrate surface.

The 14 relevant pressures were renumbered 1 to 14, with Table 4 showing the Activities-Pressures matrix and relationships between the 21 non-licensable marine activities and their associated pressures. A red-highlighted cell with the text ‘Yes’ indicates where a given non-licensable activity generates a given pressure; conversely, a green-highlighted cell with the text ‘No’ indicates where a given pressure is not generated by a given non-licensable activity. Entries in white text are based on Statutory Nature Conservation Bodies documentation, whereas the black text is based on expert opinion generated by the project team for this project. Existing data were sense-checked, whilst new (expert-judgement) data were generated for ‘novel’ activities such as bait-digging, vehicle access and drone use.

Table 4: Activity-Pressure Matrix

Pressure	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14
Non-licensable activities	Above water noise	Abrasion/ disturbance of the substrate	Changes in suspended solids (water)	Collision BELOW water	Hydrocarbon & PAH contamination	Litter	Penetration of the substratum	Removal of non-target species	Removal of target species	Smothering and siltation (Heavy)	Smothering and siltation (Light)	Synthetic compound contamination	Underwater noise changes	Visual disturbance
Board sports	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes
Geophysical surveys	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	No
Motorboating	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes
Jetskis	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes
Paddlesports	Yes	Yes	No	No	No	Yes	Yes	No	No	No	No	No	No	Yes
Parascending	Yes	No	No	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Yes
Sailing	Yes	Yes	No	Yes	No	Yes	Yes	No	No	No	No	Yes	No	Yes
SCUBA diving	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes	Yes
Swimming/snorkelling	Yes	Yes	No	No	No	Yes	Yes	No	No	No	No	No	No	Yes
Towed watersports	Yes	No	No	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Yes
Wildlife watching (from vessel at sea)	Yes	No	No	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	Yes
Bait collection	No	Yes	No	No	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
Beach recreation	Yes	Yes	No	No	No	Yes	Yes	No	No	No	No	No	No	Yes
Coasteering	Yes	Yes	No	No	No	Yes	No	No	No	No	No	No	No	Yes
Landboarding etc.	Yes	No	No	No	No	Yes	Yes	No	No	No	No	No	No	Yes
Motorsport	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	No	No	No	Yes
Vehicle access	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	No	No	No	Yes
Wildlife watching (from the shore)	Yes	No	No	No	No	Yes	No	No	No	No	No	No	No	Yes
Drone use	Yes	No	No	No	No	No	No	No	No	No	No	No	No	Yes
Gliding (unpowered)	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes
Powered flying	Yes	No	No	No	No	No	No	No	No	No	No	No	No	Yes

Using the information provided by stakeholders in the MPA intensity tables (see individual factsheets), all the non-licensable activities described as occurring at ‘high intensity’ were extracted along with their future trend information. These MPAs were then cross-matched where a high intensity activity corresponds with a reported stakeholder concern of an activity causing an impact on a designated feature. Whilst acknowledging that an activity carried out at a low intensity may cause a significant impact, an activity occurring repeatedly at a high intensity is likely to cause more impact than one-off events. The comparative screening exercise identified seven non-licensable activities of concern: Beach recreation, Wildlife watching from the land, Motor boating, Paddle sports, Motorsports and vehicle access, Bait collection and Coasteering, in 14 MPAs (Table 5). Although sailing was mapped at a high intensity within 6 of the 14 MPAs in Table 5, there was no acknowledged impact from stakeholders.

The sensitivity of each of the features designated across the 14 key MPAs to each of the 14 pressures was summarised in a matrix of features (rows) versus pressures (columns) (Annex 8 & Annex 9). Entries in each cell represent the sensitivity of a given feature to a given pressure. Where possible, data from Defra project MB0102 were used to complete the matrix. However, there are some habitats and species which haven’t been assessed by Natural England or JNCC for their sensitivity to pressures, and therefore these sensitivities could not be given. These species and habitats are noted in Annex 8 and 9 as NA (not assessed). Attempts were made to obtain supporting sensitivity data from the MMO, Natural England and JNCC however one reason for not being assessed appears to be that limited information was available.

The final step was then to assess whether the non-licensable activity (i.e. occurring at high intensity and reported as a concern by stakeholders) is spatially concurrent with the designated feature. The extent of the high intensity non-licensable activity within the MPA was mapped over the JNCC designated features spatial data layer to assess whether there was any spatial overlap of the high intensity activity on the designated features within all 14 MPAs of concern.

Table 5: High intensity non-licensable activities (from individual site factsheets) cross matched with stakeholder concerns of impact on site designated features

Where: high = overlapping high intensity & stakeholder concern
high = high intensity but no concern

Region	MPA	Beach recreation	Wildlife watching from land	Sailing	Motor boating	Paddle sports	Motorsports and Vehicle access	Bait collection	Coasteering	SCUBA
North East MPAs	Coquet to St Mary's MCZ	high	high							
	Northumbria Coast SPA	high	high							
	Flamborough Head SAC and Flamborough Head and Bempton Cliffs SPA	high	high							
East MPAs	Humber Estuary SAC & SPA	high	high	high	high			high		
	North Norfolk Coast SAC & SPA	high	high	high		high				
	The Wash and North Norfolk Coast SAC	high	high							
South MPAs	Chichester and Langstone Harbours SPA			high	high					
	Solent and Southampton Water SPA			high	high					
	Studland to Portland SAC								high	

Region	MPA	Beach recreation	Wildlife watching from land	Sailing	Motor boating	Paddle sports	Motorsports and Vehicle access	Bait collection	Coasteering	SCUBA
South West MPAs	Falmouth Bay to St Austell Bay SPA	high		high	high	high				
	Isles of Scilly Complex SAC				high					
	Plymouth Sound and Estuaries SAC & Tamar Estuaries SPA Complex	high		high	high					high
North West MPAs	Dee Estuary SAC and SPA	high					high			
	Ribble and Alt Estuaries SPA						high			

5.2 Sites of Concern Results

The sensitivities of designated features to the pressures generated by the high intensity non-licensable marine activities at each site are presented below (Tables 6-23). These tables have been generated for each of the activities that were considered as high intensity by stakeholders across each of the 14 MPAs. The tables also provide details of the future trend of the activity within the MPA and the spatial concurrence with the designated feature(s). Spatial concurrence of the activity of concern and highly sensitive designated feature(s) are highlighted in red.

The feature codes are standard EUNIS habitat classification codes and Natura2000 species codes:

Examples:

A1.1	High energy intertidal rock
HOCI_15	Peat and clay exposures
H1130	Estuaries
A169_nb	Overwintering Turnstone (non-breeding)
A195_b	Breeding Little tern

A key to the sensitivity of the feature is provided below and applies to Tables 6-23:

Key:

NA:	Not assessed
NR:	Not relevant
NS:	Not sensitive
L:	Low sensitivity
M:	Medium sensitivity
H:	High sensitivity

Table 6: Coquet to St Marys MCZ: Beach Recreation

Activity of concern:		Beach recreation					
Activity intensity (stakeholder view):		HIGH					
Trend in intensity:		Increasing					
Potential pressures generated by activity:		Above water noise	Abrasion/ disturbance of the substrate	Litter	Penetration and/or disturbance of the substratum	Visual disturbance	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
High energy intertidal rock	A1.1	NR	M	NA	M	NS	yes
Moderate energy intertidal rock	A1.2	NR	M	NA	H	NS	yes
Low energy intertidal rock	A1.3	NR	H	NA	H	NS	yes
Intertidal coarse sediments	A2.1	NR	NS	NA	NS	NS	yes
Intertidal sand and muddy sand	A2.2	NR	L	NA	L	NS	yes
Intertidal mud	A2.3	NR	NS	NA	L	NS	yes
Intertidal mixed sediment	A2.4	NR	M	NA	H	NS	yes
Underboulder communities	HOCI_10	NR	M	NA	H	NS	yes
Peat and clay exposures	HOCI_15	NR	NS	NA	L	NS	yes
High energy infralittoral rocks	A3.1	NR	M	NA	M	NS	yes
Moderate infralittoral rocks	A3.2	NR	M	NA	H	NS	yes
Moderate energy circalittoral rock	A4.2	NR	H	NA	H	NS	yes
Subtidal coarse sediment	A5.1	NR	H	NA	H	NS	no
Subtidal sand	A5.2	NR	M	NA	M	NS	yes
Subtidal mud	A5.3	NR	M	NA	M	NS	no
Subtidal mixed sediments	A5.4	NR	M	NA	H	NS	yes

Table 7: Northumbria Coast SPA: Beach Recreation

Activity of concern:		Beach recreation					
Activity intensity (stakeholder view):		HIGH					
Trend in intensity:		Increasing					
Potential pressures generated by activity:		Above water noise	Abrasion/ disturbance of the substrate	Litter	Penetration and/or disturbance of the substratum	Visual disturbance	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
Breeding Little Tern	A195_b	H	NR	L	NS	NA	Feature distribution unmapped but some overlap likely
Over-wintering Purple Sandpiper	A148_nb	M	NR	L	NS	NA	Feature distribution unmapped
Over-wintering Turnstone	A169_nb	M	NR	L	NS	NA	

Table 8: Flamborough Head SAC and Flamborough Head and Bempton Cliffs SPA: Beach Recreation

Activity of concern:		Beach recreation					
Activity intensity (stakeholder view):		HIGH					
Trend in intensity:		Increasing					
Potential pressures generated by activity:		Above water noise	Abrasion/ disturbance of the substrate	Litter	Penetration and/or disturbance of the substratum	Visual disturbance	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
Reefs	H1170	NR	NA	NA	NA	NA	yes
Submerged or partially submerged sea caves	H8330	NR	NA	NA	NA	NA	yes – at 50 caves
Vegetated sea cliffs of the Atlantic and Baltic coasts	H1230	NR	NA	NA	NA	NA	Spatial overlap unlikely as birds nesting on cliffs. Feature distribution unmapped, but SPA supporting habitats used as proxy.
Migratory Black-legged kittiwake	A188_b	H	NR	L	NS	NA	
Northern gannet	No code	NA	NA	NA	NA	NA	
Common guillemot	No code	NA	NA	NA	NA	NA	
Razorbill	No code	NA	NA	NA	NA	NA	
Breeding seabird assemblage	No code	NA	NA	NA	NA	NA	

Table 9: Humber Estuary SAC & SPA: Wildlife Watching from the Shore

Activity of concern		Wildlife watching from the land			
Activity intensity (stakeholder view)		HIGH			
Trend in intensity		Increasing			
Potential pressures generated by activity:		Above water noise	Litter	Visual disturbance	Spatial Overlap of Activity and Features
Designated feature(s)	Feature Code	P1	P6	P14	
Coastal lagoons	H1150	NR	NA	NA	Feature distribution unmapped, but spatial overlap possible
Dunes with *Hippophae rhamnoides*	H2160	NR	NA	NA	
Embryonic shifting dunes	H2110	NR	NA	NA	
Fixed dunes with herbaceous vegetation (Grey dunes)	H2130	NR	NA	NA	
Shifting dunes along the shoreline with *Ammophila arenaria* (White dunes)	H2120	NR	NA	NA	
Estuaries	H1130	NR	NA	NA	yes
Mudflats and sandflats not covered by seawater at low tide	H1140	NR	NA	NA	yes
Salicornia and other annuals colonising mud and sand	H1310	NR	NA	NA	yes
Atlantic salt meadows	H1330	NR	NA	NA	yes
Sandbanks which are slightly covered by sea water all the time	H1110	NR	NA	NA	no

Table 9 (cont.): Humber Estuary SAC & SPA: Wildlife Watching from the Shore

Potential pressures generated by activity:		Above water noise	Litter	Visual disturbance	Spatial Overlap of Activity and Features
Designated feature(s)	Feature Code	P1	P6	P14	
Grey seal	S1364	NA	NA	NA	Feature distribution unmapped but no spatial overlap
River lamprey	S1099	NS	NA	NA	
Sea lamprey	S1095	NS	NA	NA	
Avocet	A132_nb	M	L	NA	Some spatial overlap likely to occur. Feature unmapped but 'supporting SPA habitats' used as proxy
Bar-tailed godwit	A157_nb	M	L	NA	
Bittern	A021_nb	M	L	NA	
Black-tailed godwit	A156_nb	M	L	NA	
Dunlin	A149_nb	M	L	NA	
Golden plover	A140_nb	M	L	NA	
Hen harrier	A082_nb	M	L	NA	
Knot	A143_nb	M	L	NA	
Little tern	A195_b	H	L	NA	
Marsh harrier	A081_b	H	L	NA	
Redshank	A162_nb	M	L	NA	
Ruff	A151_nb	M	L	NA	
Shelduck	A048_nb	M	L	NA	
Waterbird assemblage	No code	NA	NA	NA	

Table 10: Humber Estuary SAC & SPA: Bait collection

Activity of concern		Bait collection							
Activity intensity (stakeholder view)		HIGH							
Trend in intensity		Increasing							
Potential pressures generated by activity:		Abrasion/ disturbance of the substrate	Litter	Penetration disturbance of the substratum	Removal of non-target species	Removal of target species	Smothering (Light)	Visual dist.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P2	P6	P7	P8	P9	P11	P14	
Coastal lagoons	H1150	NA	NA	NA	NA	NA	NA	NA	Feature distribution unmapped
Dunes with *H. rhamnoides*	H2160	NA	NA	NA	NA	NA	NA	NA	
Embryonic shifting dunes	H2110	NA	NA	NA	NA	NA	NA	NA	
Fixed dunes with herbaceous vegetation	H2130	NA	NA	NA	NA	NA	NA	NA	
Shifting dunes along the shoreline with *A. arenaria*	H2120	NA	NA	NA	NA	NA	NA	NA	
Estuaries	H1130	NA	NA	NA	NA	NA	NA	NA	yes
Mudflats and sandflats not covered by seawater at low tide	H1140	NA	NA	NA	NA	NA	NA	NA	yes
Atlantic salt meadows	H1330	NA	NA	NA	NA	NA	NA	NA	no
Salicornia and other annuals	H1310	NA	NA	NA	NA	NA	NA	NA	no
Sandbanks which are slightly covered by sea water all the time	H1110	NA	NA	NA	NA	NA	NA	NA	no

Table10 (cont): Humber Estuary SAC & SPA: Bait collection

Potential pressures generated by activity:		Abrasion/ disturbance of the substrate	Litter	Penetration disturbance of the substratum	Removal of non-target species	Removal of target species	Smothering (Light)	Visual dist.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P2	P6	P7	P8	P9	P11	P14	
Grey seal	S1364	NA	NA	NA	NA	NA	NA	NA	Feature distribution unmapped
River lamprey	S1099	NA	NA	NA	NA	NA	NA	NA	
Sea lamprey	S1095	NA	NA	NA	NA	NA	NA	NA	
Avocet	A132_nb	NR	L	NS	L	L	L	NA	Spatial overlap likely to occur. Feature unmapped but 'supporting SPA habitats' used as proxy
Bar-tailed godwit	A157_nb	NR	L	NS	L	L	L	NA	
Bittern	A021_nb	NR	L	NS	L	L	NS	NA	
Black-tailed godwit	A156_nb	NR	L	NS	L	L	L	NA	
Dunlin	A149_nb	NR	L	NS	L	L	L	NA	
Golden plover	A140_nb	NR	L	NS	L	L	L	NA	
Hen harrier	A082_nb	NR	L	NS	L	L	L	NA	
Knot	A143_nb	NR	L	NS	L	L	L	NA	
Little tern	A195_b	NR	L	NS	L	L	NS	NA	
Marsh harrier	A081_b	NR	L	NS	L	L	L	NA	
Redshank	A162_nb	NR	L	NS	L	L	L	NA	
Ruff	A151_nb	NR	L	NS	L	L	L	NA	
Shelduck	A048_nb	NR	L	NS	L	L	L	NA	
Waterbird assemblage	No code	NA	NA	NA	NA	NA	NA	NA	

Table 11: North Norfolk Coast SAC & SPA: Beach Recreation

Activity of concern		Beach recreation					
Activity intensity (stakeholder view)		HIGH					
Trend in intensity		Increasing					
Potential pressures generated by activity:		Above water noise	Abrasion/ disturbance of the substrate	Litter	Penetration of the substratum	Visual dist.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
Coastal lagoons	H1150	NR	NA	NA	NA	NA	Feature distribution unmapped – but likely spatial overlap
Embryonic shifting dunes	H2110	NR	NA	NA	NA	NA	
Fixed dunes with herbaceous vegetation (Grey dunes)	H2130	NR	NA	NA	NA	NA	
Humid dune slacks	H2190	NR	NA	NA	NA	NA	
Shifting dunes along the shoreline with *Ammophila arenaria* (White dunes)	H2120	NR	NA	NA	NA	NA	
Mediterranean and thermo-Atlantic *halophilous* scrubs	H1420	NR	NA	NA	NA	NA	
Perennial vegetation of stony banks	H1220	NR	NA	NA	NA	NA	
Otter	S1355	NA	NA	NA	NA	NA	Feature distribution unmapped
Petalwort	S1395	NA	NA	NA	NA	NA	

Table 11 (Cont.): North Norfolk Coast SAC & SPA: Beach Recreation

Potential pressures generated by activity:		Above water noise	Abrasion/ disturbance of the substrate	Litter	Penetration of the substratum	Visual dist.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
Breeding Avocet	A132_b	H	NR	L	NS	NA	Using mapped 'SPA supporting habitats' as proxy, then spatial overlap occurs
Breeding Bittern	A021_b	H	NR	L	NS	NA	
Breeding Common tern	A193_b	H	NR	L	NS	NA	
Breeding Little tern	A195_b	H	NR	L	NS	NA	
Breeding Marsh harrier	A081_b	H	NR	L	NS	NA	
Breeding Montagu's harrier	A084_b	H	NR	L	NS	NA	
Breeding Sandwich tern	A191_b	H	NR	L	NS	NA	
Non-breeding Dark-bellied brent goose	A046a_nb	M	NR	L	NS	NA	
Non-breeding Knot	A143_nb	M	NR	L	NS	NA	
Non-breeding Pink-footed goose	A040_nb	M	NR	L	NS	NA	
Non-breeding Wigeon	A050_nb	M	NR	L	NS	NA	
Waterbird assemblage	No code	NA	NA	NA	NA	NA	

Table 12: North Norfolk Coast SAC & SPA: Paddlesports

Activity of concern		Paddlesports					
Activity intensity (stakeholder view)		HIGH					
Trend in intensity		Increasing					
Potential pressures generated by activity:		Above water noise	Abrasion/ disturbance of the substrate	Litter	Penetration and/or disturbance of the substratum	Visual dist.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
Coastal lagoons	H1150	NR	NA	NA	NA	NA	Feature distribution unmapped
Embryonic shifting dunes	H2110	NR	NA	NA	NA	NA	
Fixed dunes with herbaceous vegetation (Grey dunes)	H2130	NR	NA	NA	NA	NA	
Humid dune slacks	H2190	NR	NA	NA	NA	NA	
Shifting dunes along the shoreline with *Ammophila arenaria* (White dunes)	H2120	NR	NA	NA	NA	NA	
Mediterranean and thermo-Atlantic *halophilous* scrubs	H1420	NR	NA	NA	NA	NA	
Perennial vegetation of stony banks	H1220	NR	NA	NA	NA	NA	
Otter	S1355	NA	NA	NA	NA	NA	Feature distribution unmapped
Petalwort	S1395	NA	NA	NA	NA	NA	

Table 12 (cont): North Norfolk Coast SAC & SPA: Paddlesports

Potential pressures generated by activity:		Above water noise	Abrasion/ disturbance of the substrate	Litter	Penetration and/or disturbance of the substratum	Visual dist.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
Breeding Avocet	A132_b	H	NR	L	NS	NA	Using mapped 'SPA supporting habitats' as proxy, then spatial overlap occurs
Breeding Bittern	A021_b	H	NR	L	NS	NA	
Breeding Common tern	A193_b	H	NR	L	NS	NA	
Breeding Little tern	A195_b	H	NR	L	NS	NA	
Breeding Marsh harrier	A081_b	H	NR	L	NS	NA	
Breeding Montagu's harrier	A084_b	H	NR	L	NS	NA	
Breeding Sandwich tern	A191_b	H	NR	L	NS	NA	
Non-breeding Dark-bellied brent goose	A046a_nb	M	NR	L	NS	NA	
Non-breeding Knot	A143_nb	M	NR	L	NS	NA	
Non-breeding Pink-footed goose	A040_nb	M	NR	L	NS	NA	
Non-breeding Wigeon	A050_nb	M	NR	L	NS	NA	
Waterbird assemblage	No code	NA	NA	NA	NA	NA	

Table 13: The Wash and North Norfolk Coast SAC: Beach Recreation

Activity of concern		Beach recreation					
Activity intensity (stakeholder view)		HIGH					
Trend in intensity		Increasing					
Potential pressures generated by activity:		Above water noise	Abrasion/ disturbance of the substrate	Litter	Penetration and / or disturbance of the substratum	Visual dist.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
Sandbanks which are slightly covered by sea water all the time	H1110	NR	NA	NA	NA	NA	Yes
Mudflats and sandflats not covered by seawater at low tide	H1140	NR	NA	NA	NA	NA	Yes
Large shallow inlets and bays	H1160	NR	NA	NA	NA	NA	Yes
Reefs	H1170	NR	NA	NA	NA	NA	Yes
Salicornia and other annuals colonizing mud and sand	H1310	NR	NA	NA	NA	NA	Yes
Atlantic salt meadows	H1330	NR	NA	NA	NA	NA	Yes
Mediterranean and thermo-Atlantic *halophilous* scrubs	H1420	NR	NA	NA	NA	NA	Yes
Coastal lagoons	H1150	NR	NA	NA	NA	NA	Feature distribution unmapped
Harbour seal	S1365	NA	NA	NA	NA	NA	
Otter	S1355	NA	NA	NA	NA	NA	

Table 14: Chichester and Langstone Harbours SPA: Motorboating

Activity of concern		Motorboating									
Activity intensity (stakeholder view)		HIGH									
Trend in intensity		?									
Potential pressures generated by activity:		Above water noise	Abrasion/ disturb. of the substrate	Collision BELOW water	Hydrocarb & PAH contam.	Litter	Penetration or disturb. of the substratum	Synthetic compound contam.	Under water noise	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P4	P5	P6	P7	P12	P13	P14	
Breeding Little Tern	A195_b	H	NR	NR	L	L	NS	NA	NS	NA	MPA activity unmapped in MMO1136 workshops.
Sandwich Tern	A191_b	H	NR	NR	L	L	NS	NA	NS	NA	
On-passage Little Egret		NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bar-tailed Godwit (wintering)	A157_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Migratory Ringed Plover	A137_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Migratory Black-tailed Godwit	A156_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Migratory Dark-bellied Brent Goose	A046a_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Migratory Dunlin	A149_nb	M	NR	NR	L	L	NS	NA	NS	NA	

Table 14 (cont): Chichester and Langstone Harbours SPA: Motorboating

Potential pressures generated by activity:		Above water noise	Abrasion/ disturb. of the substrate	Collision BELOW water	Hydrocarb & PAH contam.	Litter	Penetration or disturb. of the substratum	Synthetic compound contam.	Under water noise	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	**Feature code**	**P1**	**P2**	**P4**	**P5**	**P6**	**P7**	**P12**	**P13**	**P14**	
Migratory Grey Plover	A141_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Migratory Redshank	A162_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Migratory Ringed Plover.	A137_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Assemblage of at least 20,000 waterfowl	No code	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table 15: Solent and Southampton Water SPA: Motorboating

Activity of concern:		Motor boating									
Activity intensity (stakeholder view):		HIGH									
Trend in intensity:		Increasing									
Potential pressures generated by activity:		Above Water Noise	Abrasion/ disturb. of the substrate	Collision BELOW water	Hydrocarb. & PAH contam.	Litter	Penetration and/or disturb. of the substratum	Synthetic compound contam.	Under water noise	Visual	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P4	P5	P6	P7	P12	P13	P14	
Breeding Sandwich Tern	A191_b	H	NR	NR	L	L	NS	NA	NS	NA	MPA activity highlighted through online survey but unmapped in MMO1136 workshops.
Breeding Roseate Tern	A192_b	H	NR	NR	L	L	NS	NA	NS	NA	
Breeding Common Tern	A193_b	H	NR	NR	L	L	NS	NA	NS	NA	
Breeding Little Tern	A195_b	H	NR	NR	L	L	NS	NA	NS	NA	
Breeding Mediterranean Gull	A176_b	H	NR	NR	L	L	NS	NA	NS	NA	
Over-wintering Black-tailed Godwit.	A156_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Over-wintering Dark-bellied Brent Goose	A046a_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Over-wintering Ringed Plover	A137_nb	M	NR	NR	L	L	NS	NA	NS	NA	
Over-wintering Teal	A052_nb	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Wildfowl assemblage	No code	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table 16: Studland to Portland SAC: Coasteering

Activity of concern:		Coasteering				
Activity intensity (stakeholder view):		HIGH				
Trend in intensity:		Stays the same				
Potential pressures generated by activity:		Above water noise	Abrasion/ disturbance of the substrate	Litter	Visual disturbance	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P14	
Reefs	H1170	NR	NA	NA	NA	No

Table 17: Falmouth Bay to St Austell Bay SPA: Motorboating

Activity of concern		Motorboating									
Activity intensity (stakeholder view)		HIGH									
Trend in intensity		Increasing									
Potential pressures generated by activity		Above water noise	Abrasion / disturb. of the substrate	Collision BELOW water	Hydrocarb & PAH contam.	Litter	Penetration and/or disturb. of the substratum	Synthetic compound contam.	Under water noise	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P4	P5	P6	P7	P12	P13	P14	
Black-throated diver	A002_nb	M	NR	NR	L	L	NS	L	NA	NA	Yes - spatial overlap with 'Reefs' as a 'SPA supporting habitat'
Great northern diver	A003_nb	M	NR	NR	L	L	NS	NA	NA	NA	
Slavonian grebe	A007_nb	M	NR	NR	L	L	NS	NA	NA	NA	

Table 18: Falmouth Bay to St Austell Bay SPA: Paddlesports

Activity of concern		Paddlesports					
Activity intensity (stakeholder view)		HIGH					
Trend in intensity		Increasing					
Potential pressures generated by activity		Above water noise	Abrasion/ disturb. of the substrate	Litter	Penetration and/or disturb. of the substratum	Visual disturbance	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
Black-throated diver	A002_nb	M	NR	L	NS	NA	Yes - spatial overlap with 'Reefs' as a 'SPA supporting habitat'
Great northern diver	A003_nb	M	NR	L	NS	NA	
Slavonian grebe	A007_nb	M	NR	L	NS	NA	

Table 19: Isles of Scilly Complex SAC

Activity of concern		Motorboating									
Activity intensity (stakeholder view)		HIGH									
Trend in intensity		Increasing									
Potential pressures generated by activity		Above water noise	Abrasion / disturb. of the substrate	Collision BELOW water	Hydrocarb. & PAH contam.	Litter	Penetration and/or disturb. of the substratum	Synthetic compound contam.	Under water noise changes	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P4	P5	P6	P7	P12	P13	P14	
Sandbanks which are slightly covered by sea water all the time	H1110	NR	NA	NA	NA	NA	NA	NA	NA	NA	No
Mudflats and sandflats not covered by seawater at low tide	H1140	NR	NA	NA	NA	NA	NA	NA	NA	NA	Yes
Reefs	H1170	NR	NA	NA	NA	NA	NA	NA	NA	NA	No
Shore dock	S1441	NA	NA	NA	NA	NA	NA	NA	NA	NA	Feature distribution unmapped
Grey seal	S1364	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table 20: Plymouth Sound and Estuaries SAC & Tamar Estuaries SPA Complex: Beach recreation

Activity of concern		Beach recreation					
Activity intensity (stakeholder view)		HIGH					
Trend in intensity		Increasing					
Potential pressures generated by activity		Above water noise	Abrasion / disturb. of the substrate	Litter	Penetration and/or disturb. of substratum	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P6	P7	P14	
Sandbanks which are slightly covered by sea water all the time	H1110	NR	NA	NA	NA	NA	No
Estuaries	H1130	NR	NA	NA	NA	NA	Yes
Large shallow inlets and bays	H1160	NR	NA	NA	NA	NA	Yes
Reefs	H1170	NR	NA	NA	NA	NA	Yes
Atlantic salt meadows	H1330	NR	NA	NA	NA	NA	No
Mudflats and sandflats not covered by seawater at low tide	H1140	NR	NA	NA	NA	NA	Yes
Shore dock	S1441	NA	NA	NA	NA	NA	Feature distribution unmapped
Allis shad	No code	NA	NA	NA	NA	NA	
Over-wintering Little egret	No code	NA	NA	NA	NA	NA	Possible overlap. Features unmapped but 'supporting SPA habitats' used as proxy
On-passage Little egret	No code	NA	NA	NA	NA	NA	
Over-wintering Avocet	A132_nb	M	NR	L	NS	NA	

Table 21: Plymouth Sound and Estuaries SAC & Tamar Estuaries SPA Complex: Motorboating

Activity of concern		Motorboating									
Activity intensity (stakeholder view)		HIGH									
Trend in intensity		Increasing									
Potential pressures generated by activity		Above water noise	Abrasion / disturb. of the substrate	Collision BELOW water	Hydrocarb. & PAH contam.	Litter	Penetration and / or disturbance of the substratum	Synthetic compound contam.	Under water noise changes	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P4	P5	P6	P7	P12	P13	P14	
Sandbanks which are slightly covered by sea water all the time	H1110	NR	NA	NA	NA	NA	NA	NA	NA	NA	Yes
Estuaries	H1130	NR	NA	NA	NA	NA	NA	NA	NA	NA	Yes
Large shallow inlets and bays	H1160	NR	NA	NA	NA	NA	NA	NA	NA	NA	Yes
Reefs	H1170	NR	NA	NA	NA	NA	NA	NA	NA	NA	Yes
Atlantic salt meadows	H1330	NR	NA	NA	NA	NA	NA	NA	NA	NA	No
Mudflats and sandflats not covered by seawater at low tide	H1140	NR	NA	NA	NA	NA	NA	NA	NA	NA	Yes

Table 2221 (Cont): Plymouth Sound and Estuaries SAC & Tamar Estuaries SPA Complex: Motorboating

Potential pressures generated by activity		Above water noise	Abrasion / disturb. of the substrate	Collision BELOW water	Hydrocarb. & PAH contam.	Litter	Penetration and / or disturbance of the substratum	Synthetic compound contam.	Under water noise changes	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P4	P5	P6	P7	P12	P13	P14	
Shore dock	S1441	NA	NA	NA	NA	NA	NA	NA	NA	NA	Feature distribution unmapped
Allis shad	No code	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Over-wintering Little egret	No code	NA	NA	NA	NA	NA	NA	NA	NA	NA	Possible overlap. Features unmapped but 'supporting SPA habitats' used as proxy
On-passage Little egret	No code	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Over-wintering Avocet	A132_nb	M	NR	NR	L	L	NS	NA	NS	NA	

Table 23: Dee Estuary SAC and SPA: Vehicle Access onto the Foreshore

Activity of concern		Vehicle access onto the foreshore						
Activity intensity (stakeholder view)		HIGH						
Trend in intensity		Stay the same						
Potential pressures generated by activity		Above water noise	Abrasion / disturb. of the substrate	Hydrocarb & PAH contam.	Litter	Penetration and/or disturb. of the substratum	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P5	P6	P7	P14	
Mudflats and sandflats not covered by seawater at low tide	H1140	NR	NA	NA	NA	NA	NA	Yes
Salicornia and other annuals colonizing mud and sand	H1310	NR	NA	NA	NA	NA	NA	Yes
Atlantic salt meadows	H1330	NR	NA	NA	NA	NA	NA	Yes
Estuaries	H1130	NR	NA	NA	NA	NA	NA	Yes

Table 22 (Cont): Dee Estuary SAC and SPA: Vehicle Access onto the Foreshore

Activity of concern		Vehicle access onto the foreshore						
Activity intensity (stakeholder view)		HIGH						
Trend in intensity		Stay the same						
Potential pressures generated by activity		Above water noise	Abrasion / disturb. of the substrate	Hydrocarb & PAH contam.	Litter	Penetration and/or disturb. of the substratum	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P5	P6	P7	P14	
Annual vegetation of drift lines	H1210	NR	NA	NA	NA	NA	NA	Feature distribution unmapped
Vegetated sea cliffs of the Atlantic and Baltic coasts	H1230	NR	NA	NA	NA	NA	NA	
Embryonic shifting dunes	H2110	NR	NA	NA	NA	NA	NA	
Shifting dunes along the shoreline with *Ammophila arenaria* (White dunes)	H2120	NR	NA	NA	NA	NA	NA	
Fixed dunes with herbaceous vegetation (Grey dunes)	H2130	NR	NA	NA	NA	NA	NA	
Humid dune slacks	H2190	NR	NA	NA	NA	NA	NA	
Sea and River lampreys	S1095	NS	NA	NA	NA	NA	NA	
	S1099	NS	NA	NA	NA	NA	NA	
Petalwort	S1395	NA	NA	NA	NA	NA	NA	

Table 22 (Cont.): Dee Estuary SAC and SPA: Vehicle Access onto the Foreshore

Activity of concern		Vehicle access onto the foreshore						
Activity intensity (stakeholder view)		HIGH						
Trend in intensity		Stay the same						
Potential pressures generated by activity		Above water noise	Abrasion / disturb. of the substrate	Hydrocarb & PAH contam.	Litter	Penetration and/or disturb. of the substratum	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P5	P6	P7	P14	
Breeding Common Tern	A193_b	H	NR	L	L	NS	NA	Possible overlap. Features unmapped but 'supporting SPA habitats' used as proxy
Breeding Little Tern	A195_b	H	NR	L	L	NS	NA	
On-passage Sandwich Tern	No code	NA	NA	NA	NA	NA	NA	
Over-wintering Bar-tailed Godwit	A157_nb	M	NR	L	L	NS	NA	
Migratory Redshank	A162_nb	M	NR	L	L	NS	NA	
Over-wintering Curlew	A160_nb	M	NR	L	L	NS	NA	
Over-wintering Dunlin	A149_nb	M	NR	L	L	NS	NA	
Over-wintering Grey plover	A141_nb	M	NR	L	L	NS	NA	
Over-wintering Knot	A143_nb	M	NR	L	L	NS	NA	
Over-wintering Oystercatcher	A130_nb	M	NR	L	L	NS	NA	
Over-wintering Pintail	A054_nb	M	NR	L	L	NS	NA	
Over-wintering Redshank	A162_nb	M	NR	L	L	NS	NA	

Table 22 (Cont.): Dee Estuary SAC and SPA: Vehicle Access onto the Foreshore

Activity of concern		Vehicle access onto the foreshore						
Activity intensity (stakeholder view)		HIGH						
Trend in intensity		Stay the same						
Potential pressures generated by activity		Above water noise	Abrasion / disturb. of the substrate	Hydrocarb & PAH contam.	Litter	Penetration and/or disturb. of the substratum	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P5	P6	P7	P14	
Over-wintering Shelduck	A048_nb	M	NR	L	L	NS	NA	Possible overlap. Features unmapped but 'supporting SPA habitats' used as proxy
Over-wintering Teal	A052_nb	H	NR	L	L	NS	NA	
Supporting at least 20,000 waterfowl	No code	NA	NA	NA	NA	NA	NA	

Table 24: Ribble and Alt Estuaries SPA: Vehicle access onto the foreshore

Activity of concern		Vehicle access onto the foreshore						
Activity intensity (stakeholder view)		HIGH						
Trend in intensity		Increasing						
Potential pressures generated by activity		Above water noise	Abrasion/ disturb. of the substrate	Hydrocarb. & PAH contam.	Litter	Penetration and/or disturb. of the substratum	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	Feature code	P1	P2	P5	P6	P7	P14	
Breeding Ruff	A151_b	H	NR	L	L	NS	NA	Possible overlap. Features unmapped but 'supporting SPA habitats' used as proxy
Breeding Common Tern	A193_b	H	NR	L	L	NS	NA	
Wintering Pink-footed Goose	A040_nb	M	NR	L	L	NS	NA	
Wintering Shelduck	A048_nb	M	NR	L	L	NS	NA	
Wintering Wigeon	A050_nb	M	NR	L	L	NS	NA	
Wintering Teal	A052_nb	H	NR	L	L	NS	NA	
Wintering Pintail	A054_nb	M	NR	L	L	NS	NA	
Wintering Oystercatcher	A130_nb	M	NR	L	L	NS	NA	
Wintering Grey Plover	A141_nb	M	NR	L	L	NS	NA	
Wintering Knot	A143_nb	M	NR	L	L	NS	NA	
Wintering Sanderling	A144_nb	M	NR	L	L	NS	NA	
Wintering Dunlin	A149_nb	M	NR	L	L	NS	NA	

Table 23 (cont): Ribble and Alt Estuaries SPA: Vehicle access onto the foreshore

Activity of concern		Vehicle access onto the foreshore						
Activity intensity (stakeholder view)		HIGH						
Trend in intensity		Increasing						
Potential pressures generated by activity		Above water noise	Abrasion/ disturb. of the substrate	Hydrocarb. & PAH contam.	Litter	Penetration and/or disturb. of the substratum	Visual disturb.	Spatial Overlap of Activity and Features
Designated feature(s)	**Feature code**	**P1**	**P2**	**P5**	**P6**	**P7**	**P14**	
Wintering Black-tailed Godwit	A156_nb	M	NR	L	L	NS	NA	Possible overlap. Features unmapped but 'supporting SPA habitats' used as proxy
Wintering Redshank	A162_nb	M	NR	L	L	NS	NA	
Breeding Lesser Black-backed Gull	A183_b	H	NR	L	L	NS	NA	
Passage Ringed Plover	A137_nb	M	NR	L	L	NS	NA	
Passage Sanderling	A144_nb	M	NR	L	L	NS	NA	
Passage Redshank	A162_nb	M	NR	L	L	NS	NA	
Wintering Bewick's Swan	A037_nb	M	NR	L	L	NS	NA	
Wintering Whooper Swan	A038_nb	M	NR	L	L	NS	NA	
Wintering Golden Plover	A140_nb	M	NR	L	L	NS	NA	
Wintering Bar-tailed Godwit.	A157_nb	M	NR	L	L	NS	NA	
Waterbird assemblage	No code	NA	NA	NA	NA	NA	NA	
Seabird assemblage	No code	NA	NA	NA	NA	NA	NA	

5.3 Sites of Concern Summary

Of the 14 MPAs highlighted in Tables 6-23, only 6 MPAs indicate a spatial overlap of a high intensity activity with a designated feature(s) which shows high sensitivity to the pressure from that activity. The MPAs include:

- Coquet to St Marys MCZ: beach recreation on intertidal, infralittoral and circalittoral habitats.
- Northumbria Coast SPA: beach recreation on breeding Little tern.
- Humber Estuary SPA: wildlife watching from the land on Little tern and Marsh harrier.
- North Norfolk Coast SPA: beach recreation and paddle sports on breeding Avocet, breeding Bittern, breeding Common tern, breeding Little tern, breeding Marsh harrier, breeding Montagu's harrier and breeding Sandwich tern.
- Dee Estuary SPA: vehicle access on to the foreshore impacting breeding Common tern, breeding Little tern and over-wintering Teal.
- Ribble and Alt Estuaries SPA: vehicle access on to the foreshore impacting breeding Ruff, breeding Common tern, breeding Lesser Black-backed gull and wintering Teal.

However, it should be noted that the sensitivities of many features have not been assessed by the SNCBs, and therefore the assessment of the potential impact of non-licensable activities on other designated features is limited. Until these sensitivity assessments have been carried out, these activities should be considered for future monitoring within the MPA, to make a full assessment of potential impacts.

Recommendation #1: To carry out further monitoring of the following 6 MPAs identified in the ranking exercise for potential impact on designated features from the following non-licensable activities:

1. *Coquet to St Marys MCZ: beach recreation on intertidal, infralittoral and circalittoral habitats;*
2. *Northumbria Coast SPA: beach recreation on breeding Little tern;*
3. *Humber Estuary SPA: wildlife watching from the land on Little tern and Marsh harrier;*
4. *North Norfolk Coast SPA: beach recreation and paddle sports on breeding Avocet, breeding Bittern, breeding Common tern, breeding Little tern, breeding Marsh harrier, breeding Montagu's harrier and breeding Sandwich tern;*
5. *Dee Estuary SPA: vehicle access on to the foreshore impacting breeding Common tern, breeding Little tern and over-wintering Teal;*
6. *Ribble and Alt Estuaries SPA: vehicle access on to the foreshore impacting breeding Ruff, breeding Common tern, breeding Lesser Black-backed gull and wintering Teal.*

6. Conclusions and Further Recommendations

The following discussion reviews the collection of evidence and provides recommendations to further develop strategic actions for the management of English MPAs.

6.1 Evidence Collection

Feedback from the stakeholders who participated in this project stated that the methodology adopted (online questionnaire and focused workshops) was a productive way to generate evidence on a large suite of non-licensable activities. Furthermore, it was recognised that the local workshops generated more detailed and robust data than the online questionnaire. This was largely due to the strength of group-work at the workshops which allowed for deliberation over the extent and intensity of activities, whereas the online questionnaire was completed by individuals alone.

The real strength of the online questionnaire was that it generated interest in the project, and by promotion through a number of websites and direct contacts, provided initial evidence for a range of MPAs around the English coast. By their nature, non-licensable activities are more individual and less well-recorded than all other activities. When using evidence collected through the online survey, the confidence level of the respondent should be recorded to determine the overall certainty in the assessment of the extent and intensity of non-licensable activities within an MPA. In contrast, the extent and intensity of non-licensable activities addressed in the workshops was discussed between a number of local stakeholders following a detailed introduction to the activities by the workshop facilitators. In general, higher confidence was attached to the extent and intensity data following validation at the local stakeholder workshops and the format allowed some consensus to be reached, again with a higher degree of confidence. There were still gaps in evidence following the workshops for particular activities and MPAs and this emphasises the importance of ensuring the most appropriate stakeholders are present who have a strong local knowledge about activities within a particular MPA.

The importance of group work within workshops was highlighted by the stakeholders, with a collective process (i.e. consensus) strengthening the confidence in the outputs. The workshops generated more robust evidence on extent and intensity, as stakeholders were focused on the workshop tasks and were able to discuss the activities with other stakeholders. Although the 21 non-licensable activities were mapped in the MPAs, the extent and intensity of the activities were only as accurate as the knowledge of the people in attendance.

The data collected reflects the local knowledge which could be drawn upon from stakeholders at the workshops. If local knowledge on a particular activity, or for a particular site was not present in the room, then it is likely that some activities may have been poorly represented. However, the presence or absence of an activity is represented in the intensity tables in the MPA factsheets for each site (? = unsure

whether an activity occurs as opposed to 0 = an activity does not occur), with the confidence score reflecting the stakeholder confidence in the data provided.

In addition to extent, intensity and trend data, stakeholders were also asked to map points of access to the foreshore (e.g. car parks, footpaths, slipways, moorings, pontoons). Given the requirement for access to undertake a number of the non-licensable activities addressed within Project MMO1136, these data identify potential areas where management measures could be initiated if required.

Recommendation #2: The stakeholder workshop methodology developed and implemented during this project provided robust data on the extent and intensity of non-licensable activities. The use of a similar methodology is advocated for future workshops where further evidence be required for individual MPAs.

6.2 MPA Coverage

6.2.1 Inshore MPAs

The data for every MPA submitted via the online questionnaire were not validated at the workshop stage. This was largely dictated by the knowledge of the stakeholders who were present at the workshops. With resources only allowing four workshops to be run, these were held at appropriate locations to allow the best coverage of MPAs around the English coastline. Workshops were held in the North East, East, North West and South West, however this resulted in a lack of input from the South East and South marine plan areas. This could be resolved by additional workshops being held in other locations (particularly the South East and South) to get better validation of MPAs within these regions.

Most non-licensable activities within the scope of this work (Annex 1) occur in estuarine, coastal and inshore waters thereby allowing stakeholders to have a good knowledge and greater input on their extent and intensity.

Recommendation #3: To obtain robust, site-specific information for MPAs with little data (e.g. those in the South and South East of England), additional stakeholder workshops should be held to encourage stakeholders in these areas to share information on non-licensable activities in their local MPAs.

6.2.2 Offshore MPAs

The stakeholders who attended the workshops were generally less aware of the extent and intensity of non-licensable activities in offshore MPAs, which is reflected in the MPA evidence generated by this project. However, given that most non-licensable activities are focussed around the intertidal area or nearshore coastal waters, then the number of non-licensable activities occurring offshore would likely be much lower in comparison.

Recommendation #4: To identify the extent and intensity of non-licensable activities in the offshore environment (such as diving, boating, sailing), a series of smaller offshore

focussed workshops attended by participants with experience in offshore non-licensable related activities, may help to fill this evidence gap.

6.3 General Trends

Within the scope of Project MMO1136, stakeholders were asked to indicate whether the popularity of the 21 non-licensable activities would increase, decrease or stay the same over the next two years, and to provide any factors used in their decision. Most responses related to the activities they believed were currently increasing in popularity within their regions.

6.3.1 Regional Trends

In the North East, stakeholders noted that most activities have seen a general increase in participation and this is likely to continue due to the promotion of awareness of the coastline. Of particular concern was the increase in the use of jetskis and other motorised water-based sports. This rise was attributed to an increase in access and affordability and a general growth in adventure recreational activities and ecotourism. Drone use was highlighted as an increasing activity. Improvements to visitor attractions (e.g. St Mary's Island lighthouse and visitor centre) will also increase visitor numbers and footfall, with stakeholders raising concerns about the resulting potential increased disturbance to the grey seal population at this location.

Non-licensable activities felt to be on the increase in East coast MPAs included paddle sports and the use of drones. With technology improving to make drones cheaper and more accessible, they are now being flown from many access points. Some activities such as sailing are already very popular and will likely remain to be so.

In the South East MPAs, stakeholders predicted an increase in paddle sport participation and jetskis. Drone use is also on the rise and is becoming a popular hobby. A rising population along the coast due to the greater provision of housing will likely see an increase in beach recreation (particularly dog walking) and car parking requirements in the future.

The South coast of England has always been a popular destination for coastal recreational activities and with increasing housing, participation is predicted to increase, particularly paddle sports and beach recreation. For example, annual monitoring around the Solent Maritime SAC has reported an increase in board and paddle sports, so potentially the level of participation could increase further over the next two years. Drone use was again an activity on the increase as was bait collection activities (e.g. River Hamble).

The South West coastline has seen a general increase in all leisure activities, partly due to the current fashion for surfing and related water sports. Stakeholders report that the coast of Cornwall has seen an increase in jetskis, paddle sports and wildlife watching trips. This is partly due to an increase in commercial businesses hiring out equipment or offering wildlife tours. Voluntary wardens have reported increased levels of paddle sport

users and jetskis within their reserves (e.g. Whitsand and Looe Bay MCZ). North Devon has a relatively unspoilt coastline but is gaining in popularity. The use of drones was again highlighted as an activity gaining popularity. Some MPAs, such as the Isles of Scilly Complex SAC, have natural limits to numbers of people who can stay on the islands which in turn limits activity levels.

There has been a general increase in popularity along the North West coastline for non-licensable activities. Canoeing competitions and bait collection were noted as being on the rise.

6.3.2 National Trends

In a national context, the non-licensable activities of paddle sports, jetskis, general beach recreation and the use of drones are noted as the key activities stakeholders felt were experiencing an increase in popularity and participation. Some of the main factors given for the positive trend of some of these activities include:

- The regular promotion on national media by local authorities and local tourist boards of the English coast as a tourism and recreation destination. Particular areas of the English coastline e.g. the North Norfolk, Northumberland, Devon and Cornish coastlines are being increasingly promoted which results in higher participation levels in non-licensable activities as more people visit. As some parts of the coastline are at capacity, any future increases could have a significant effect on the notified features of the site.
- There is a general trend of people engaging more in outdoor activities. General outdoor recreation at the coast appears to be increasing (anecdotal). This increase is expected to show in the next few years following the opening of the England Coast Path. The general increase in leisure activity at the coast could subsequently place more pressure on protected areas.
- With increasingly affordable equipment and more leisure time, people are undertaking new activities. Technology being more affordable is reflected in the increase in recreational drone use at the coast. More commercial outlets are hiring paddle sports and other water sports equipment. Activities fall in and out of popularity, but activities which are easily affordable (e.g. kayaking and board sports) can see a steady growth in the participation rates.
- As the UK is experiencing warmer weather during the summer months, this makes holidaying within the UK a more desirable alternative to going abroad. This leads to an increase in intensity of recreational activities at the coastline and subsequent pressure on natural resources.

Trend data are important evidence for the MMO to collect given that the range of non-licensable activities has seen rapid growth in participation (e.g. with respect to paddle sports, drones). It is evident that there is no scope for some non-licensable activities to increase within some MPAs due to the conditions required (e.g. long stretches of sandy beach are required for sand boarding; rocky coastlines are required for coasteering). However, some non-licensable activities, which do not require specific habitats, specific

access requirements or the purchase/hire of expensive equipment (e.g. drone use, paddle sports, beach recreation) are showing increases around the whole English coast. Paradoxically, it is these activities that are most difficult to quantify and control due to their individual nature. It should be noted that the level of activity cannot be automatically be equated to pressure or level of impact.

Recommendation #5: For a more robust evidence base, data should be collated on seasonal trends, trends in participation and membership levels of organised groups. Having a good understanding of trend data will be valuable for the MMO future impact assessments and prioritisation of non-licensable activities.

6.4 Non-licensable Activities of Concern

Although this work has identified a number of non-licensable activities (beach recreation, bait collection, vehicle access to the foreshore, paddlesports and wildlife watching from the land) which may impact designated features within specific MPAs, the importance of further monitoring of these activities within these MPAs is emphasised.

There are still evidence gaps in assessing the sensitivity of features to pressures, particularly habitats, and until more of these are finalised, the precautionary approach should be adopted with ongoing monitoring of non-licensable activities to assess their impacts on designated MPA features.

Recommendation #6: To ensure ground-truthing of data where an MPA is considered to be impacted by a non-licensable activity and specifically to identify whether the activity occurs across the MPA or only in certain areas.

Recommendation #7: To complete sensitivity analysis for non-licensable activities on designated features, through pressure – sensitivity mapping.

6.5 MPA Comparison and Management

One important issue repeatedly raised throughout by stakeholders is the need to treat each MPA on its own merits; no two MPAs are the same, either for their designated features, or the extent and intensity of activities. The importance of site-specific information needs to be taken on board, with non-licensable activities not being treated with a broad-brush approach across all MPAs. In particular, it was suggested that management efforts to address potential impacts from non-licensable activities often need to focus at the local level (e.g. at local beaches) rather than at the whole MPA level if these are large sites.

Achieving the balance between the protection of MPA features and the continued recreational use of the MPA requires stakeholders to be included in the decision-making process. Many users do not have the knowledge, inclination and skills needed to reduce their impact on the natural environment and there are little resources available locally to

address this growing issue. If stakeholders actively support the need for soft management measures (e.g. zoning, codes of conduct), then there should be greater compliance, resulting in less need for enforcement. Through this project, stakeholders communicated that zonation may be a good mechanism to reduce non-licensable activities affecting sensitive areas and to ensure their sustainability.

A national code of conduct for the marine environment was also proposed by some stakeholders so the same and consistent message is promoted across England. This is important given the greater mobility of the users. Whilst some codes of conduct have been in place for a number of years (see NECR242), there are now more people participating in activities at the coast, and the activities are diversifying, meaning that any such codes of conduct need to be continually updated or need to be more structured. The national codes of conduct should be tailored to suit the needs of a local MPA.

Recommendation #8: To develop a suite of measures which can be adapted to individual MPAs, but to recognise that there are some activities which are so individual and uncontrolled that management is difficult and less cost effective. Measures could include:

- *Limits on access and the zonation of vessels at sea with buoys to control distance, speed, types of vessel and the timing of activities that can be flexibly applied to any sensitive MPA.*
- *Local zoning of activities on land to limit access to sensitive areas. For example, successful schemes include the Shorebird Sanctuary exclusion zone and wardening at Gibraltar Point SPA, Lincolnshire which restricts beach access in the breeding/nesting season for little terns and ringed plover.*
- *Achieve stakeholder and public buy-in to voluntary management schemes (e.g. using codes of conduct), as these may be more effective than hard management.*
- *Increased signage/advice boards to raise public awareness of potential impacts from their activities and inform of best practice. These should be located at key access points/launch sites/car parks within the MPA.*
- *Adapt national codes of conduct for non-licensable activities to local MPA requirements.*

6.6 Other Actions

Through this work, it is recognised that many stakeholder concerns regarding increased protection of wildlife in MPAs are either out of the remit of this study, or out of the remit of the MMO to deliver (e.g. the impacts of dog walking; the protection of all features within an MPA not just those designated). However, these concerns are still important and form a good starting point for consideration in any future MPA assessments by relevant authorities.

Through its functions of marine planning and licensing, the MMO can ensure that the marine activities that it currently regulates will avoid any adverse impacts on MPA

designated features. In generating the evidence base on extent and intensity of non-licensable activities occurring within the MPAs, the MMO can also ensure that consideration is given to activities occurring at high intensities if spatially and temporally concurrent with sensitive features, and to make any future decisions based on the best available evidence.

<u>Recommendation #9:</u> For the MMO to continue to work in synergy with other statutory bodies (e.g. Natural England, IFCAs) where possible to address non-licensable activities resulting in changes to favourable condition.

To utilise existing voluntary schemes to increase the understanding of non-licensable activities to improve the evidence base. Examples include:

- Citizen Science initiatives where groups of volunteers are trained to collect information in a systematic way. Information collected through initiatives like the CoastXplore App can provide qualitative information to inform sites assessment.
- Voluntary monitoring initiatives as used at Flamborough Head SAC and Flamborough Head and Bempton Cliffs SPA. Using guidelines, recreational activity surveys have been undertaken since 2013 to note the degree of disturbance from different activities, the date, time and type of activity and the distance of the disturbing activity from the cliff face or rafting birds. Each completed form is forwarded to the Flamborough Head Management Scheme which ensures that regular information on disturbance is received by the site managers.
- The National Coastwatch Institution is a voluntary organisation keeping a visual watch along UK shores. Each station assists in the protection and preservation of life at sea and around the UK coastline. There are currently 54 NCI stations operational and manned by over 2400 volunteers keeping watch around the British Isles with over 262,400 hours of organised coastal surveillance completed in 2017.

<u>Recommendation #10:</u> To continue gathering extent and intensity of activities, and to determine the pressures from those activities showing disturbance to increase the evidence base by linking with voluntary schemes and groups working around the English coastline.

7. References

Defra (2012), MB0102 - Marine Protected Areas - gathering/developing and accessing the data for the planning of a network of Marine Conservation Zones – Available at http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=16368

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Natural England (2017), NECR242 - Managing marine recreational activities: a review of evidence, available at http://publications.naturalengland.org.uk/publication/5164654430519296

Natural England Evidence Information Notes, 2017, available at http://publications.naturalengland.org.uk/category/9001

Annex 1 Non-licensable marine activities included in the scope of work

Location		Activity Group	Activities included in the group
A shoreline /intertidal area (High Water to Low Water) is required to carry out the activity		Bait collection	All forms of collection including digging, pumping, or sieving (for lugworms and/or ragworms); crab-tiling (deployment of structures such as tiles, drain pipes or car tyres for gathering soft shell and peeler crabs); stone-turning/hand-gathering of mussels & winkles, samphire and seaweed collection from the shore
		Beach recreation	Beach combing, beach games, sunbathing, rockpooling
		Coasteering	Coasteering
		Motor sport	Quad bikes, scramble bikes, 4x4s
		Vehicle access	Access and driving on the foreshore (including beach car parks)
		Wildlife watching from the land	Wildlife watching from the land
		Land boarding	Sand yachts, kite buggying
Water-based activities	Nearshore activities	Board sports	Surfing, kitesurfing & windsurfing
		Motorised personal watercraft	Jet Skis & Sea-Doos
		Paddle sports	Canadian canoeing, kayaking (sea-, surf-, or sit-on-top) & stand-up paddle boarding
		Towed water sports	Wakeboarding & waterskiing
		Parascending	Parasailing or parakiting (different to towed water sports as it has an aerial component)
		Swimming / Snorkelling	Swimming in the sea, snorkelling on reefs

Water-based activities	Activities further offshore	Swimming / Snorkelling	Swimming in the sea, snorkelling on reefs
		Sailing	Dinghies, day boats, yachts & other small keelboats
		SCUBA diving	The act of SCUBA diving
		Motorboating	Powerboats, speedboats, hovercraft (cruising)
		Wildlife watching from the sea	Organised or individual trips by vessels to observe wildlife (seals, whales, birds etc)
		Geophysical surveys	Vibracoring, multibeam, ground-truthing, acoustic surveys
Aerial activities		Drone use	Recreational use at the coast
		Gliding (unpowered)	Paragliders, hang gliders
		Aircraft (powered)	Microlights, paramotors, small planes (civilian, non-commercial), helicopters

It is recognised that there are a number of additional non-licensable marine activities that either do not come under the jurisdiction of the MMO or have been studied in greater depth through other recent work. These activities include:

- Dog walking
- Shipping
- Recreational angling
- Anchoring and mooring impacts
- Commercial fishing

These activities were excluded from the remit of this project.

Annex 2 Consultees

The following table identifies those groups contacted directly as part of this study.

Activity groups	Groups or organisations contacted
Area of Outstanding Natural Beauty Officers & Heritage Coast Partnerships	Regional contacts (various)
Beach activities	e.g. Surf Lifesaving, Royal Life Saving Society, UK Detector Net Forum
British Trust for Ornithology	UK contacts
Canoeing	British Canoeing
Coastal Forums	Suffolk Coast Forum
Coastal Forums	North West Coastal Forum
Coastal Forums	Essex Coastal Forum
Coastal Forums	Dorset Coastal Forum
Coastal Forums	Solent Coastal Forum
Coastal Forums	Wirral Coastal Forum
Coastal Forums	Southern Coastal Group
Coastal Forums	South East Coastal Group
Coastal Forums	Devon Maritime Forum
Coastal Forums	Sea Torbay
Coastal Forums	Fowey Harbour Commissioners
Coastal Forums	Kent Coastal Network
Coastal Forums	Thanet Coast Project
Coastal Forums	North Yorkshire and Cleveland Coastal Forum
Coastal Forums	Durham Heritage Coast Partnership
Coastal Forums	Eastern Solent Coastal Partnership
Coastal Forums	East Anglia Coastal Group
Coastal Forums	North West England and North Wales Coastal Group

Activity groups	Groups or organisations contacted
Coastal Forums	North Devon and Somerset Coastal Advisory Group
Coastal Wardens	Various (e.g. Essex Coastal Wardens)
Coasteering	Regional activity centres and National Coasteering Charter
CoastXplore	Newcastle University
County Councils	All coastal County Councils
Diving	e.g. British Sub-Aqua Club, local clubs
Drone	e.g. Heliguy, FPVUK, No Fly Drones, Association of Remotely Piloted Aircraft Systems
European Marine Site officers - 46 groups through the Wash and North Norfolk Marine Partnership,	The Wash and North Norfolk Marine Partnership
Environment Agency	National contacts
Estuary and Coastal Partnerships	All contacted
Geophysical surveys	e.g. Fugro, Socotec, British Geological Survey, Gardline
HM Coastguard	HM Coastguard
Hovercraft	The Hovercraft Club of Great Britain
Inshore Fisheries Conservation Authorities	All regions
Joint Nature Conservation Committee - offshore activities (geophysical surveys)	Joint Nature Conservation Committee
Kite surfing	Kite Surfing UK
Land yachting / kite buggying	e.g. Wirral Sand Yacht Club, Kent Land yacht Club
Marine and Coastal Biodiversity Groups	Yorkshire Coast
Marine Conservation Society	National and regional groups
Marine Management Organisation Marine Plan network	Marine Management Organisation

Activity groups	Groups or organisations contacted
National Coastal Tourism Academy	National Coastal Tourism Academy
National Coastwatch Institutions	National group
National Trust	All offices
Natural England	All offices
North Devon Biosphere	North Devon Biosphere
Personal Watercraft (jetskis)	Personal Watercraft
Royal National Lifeboat Institute	Royal National Lifeboat Institute
Royal Society for the Protection of Birds (RSPB)	UK and regional contacts
Sailing	Royal Yachting Association
Sea swimming	Triathlon / open water swimming
SeaFish	SeaFish
Standup paddleboarding	British Standup Paddle Association
Surfers	Surfers Against Sewage
Tourist Boards and visitor centres	Regional offices
University groups	National (e.g. Exeter, Newcastle, Portsmouth, Plymouth, Hull)
Water sports clubs (jetskis, kite surfing, sailing, scuba diving, power crafts)	Regional clubs contacted
Wildfowlers	British Association for Shooting and Conservation Wildfowlers and regional groups
Wildlife Trust	National office and regional offices
Wildlife watching	e.g. WiSE Scheme, RSPB
Windsurfing	e.g. Ocean Motion Windsurfing Club, Northumbrian windsurfing
Worldwide Fund for Nature (WWF)	WWF national office

Annex 3 Questionnaire Design

MMO1136: Non-licensable Activities in Marine Protected Areas

Introduction

The Marine Management Organisation (MMO) has a remit to provide a planning approach to the management of the activities, resources and assets in England's waters which aims at ensuring sustainable development in the marine environment. The MMO has an obligation under the Marine and Coastal Access Act 2009 to further the conservation objectives of Marine Protected Areas (MPAs), including using its byelaw making powers and marine planning policy to directly or indirectly manage non-licensable activities.

The MMO have commissioned the **Institute of Estuarine and Coastal Studies (IECS) at the University of Hull** to build on previous work to develop a robust evidence base on the full range and types of marine non-licensable activities, their spatial extent, current and potential intensity, and risk of **impact on MPAs within English (inshore and offshore) waters**. The types of MPAs included within this study are Special Areas of Conservation (SACs), Special Protection Areas (SPAs) for birds and designated Marine Conservation Zones (MCZs).

Sometimes, the occurrence of non-licensable activity within MPAs may not be well understood (for example, in terms of the location or the intensity of the activity in time and space).

This survey is intended to support this project by gathering evidence on non-licensable activities occurring in English Marine Protected Areas. The questionnaire will ask you to consider the MPAs that you are most familiar with and will seek to collect information on:

- your knowledge of non-licensable marine activities in specific MPAs (including the extent, frequency, duration, and participation levels for different activities);
- the potential impacts of non-licensable activities on MPA features; and current management controls

We anticipate that the survey should take approximately 20-25 minutes to complete.

If you feel you can provide more of a national overview of activities and would like to discuss these with the project team, please contact us by phone [contact details of the project team given].

The closing date for the survey is Friday 31st August 2018

Online Consent

The questionnaire is being undertaken in accordance with the Research Ethics Guidelines of the University of Hull, and has been approved by the University's Faculty of Science and Engineering Research Ethics Approval and Research Integrity Committee.

Your participation in this questionnaire is entirely voluntary and you can stop your participation at anytime.

All data you provide, including any personal data, will be treated with confidentiality. The information you provide will be anonymised, stored securely and will only be used for the purpose of this research study.

All collated data will be passed to the MMO on completion or termination of this study; the MMO will destroy all such data within six years of the end of this study. The data will never be sold on and will not, when reported or otherwise published, be individually attributable to you.

Please confirm whether or not you are happy to participate in this survey and proceed with completing this survey questionnaire

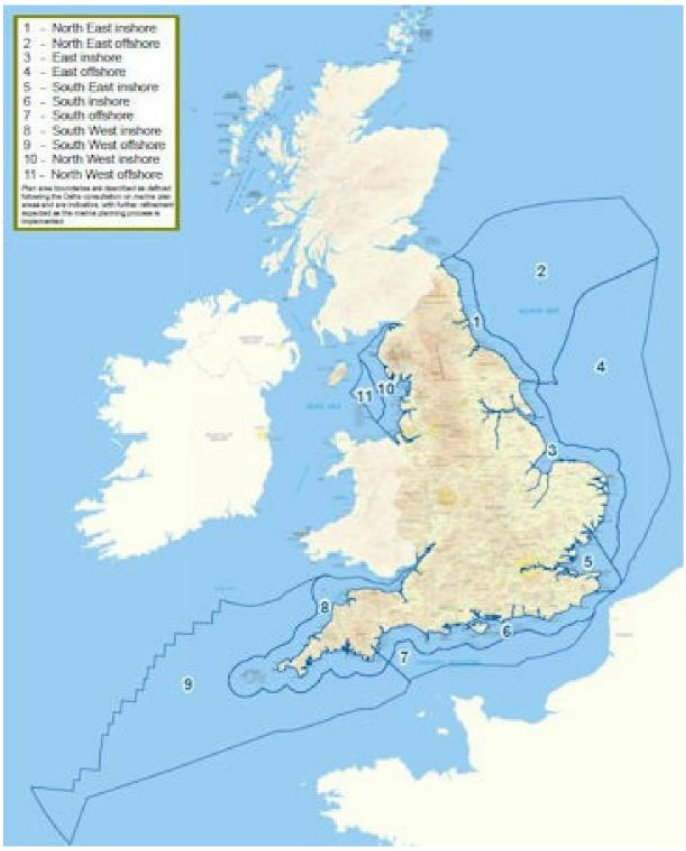
* *Required*

- ○ Yes, I am happy to participate and to proceed with completing this questionnaire
- ○ No, I do not wish to participate

Marine Plan Area Selection

To assess the potential impacts of non-licensable marine activities, we would like you to first focus on the marine plan area that you are most familiar with. You will then have the option to provide detailed information on up to two different MPAs within this area.

If you are able to provide information on activities occurring in a different Marine Plan area then you are welcome to repeat this survey or to contact us directly to discuss your contribution to this study.



Q1a To begin with, please select the Marine Plan area you are most familiar with or can provide most information on regarding non-licensable marine activities in MPAs.

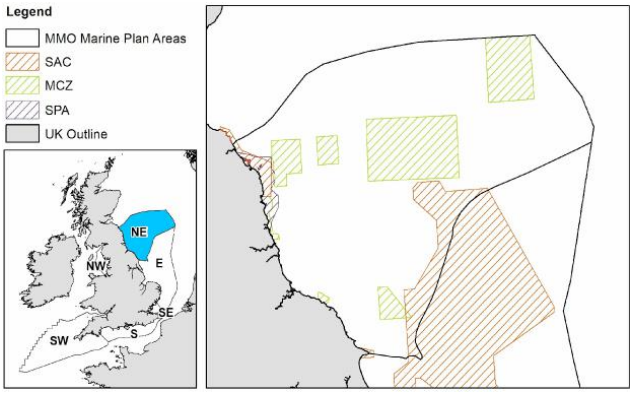
- North East (inshore & offshore)
- East (inshore & offshore)
- South East (inshore)
- South (inshore & offshore)
- South West (inshore & offshore)
- North West (inshore & offshore)
-

Example: MMO – NE Region

Non-licensable activities in specific MPAs (North East Marine Plan areas) - selection of MPA

You will now be asked to identify the Marine Protected Area (MPA) within the north east marine plan area that you consider you are best able to provide information on regarding the occurrence of non-licensable activities. You will then be asked a series of questions about activities within this MPA.

Subsequently, if you feel that you are able to provide equivalent information for another MPA within the North East Marine Plan areas, you will have the opportunity to select a second MPA before repeating the activity questions.



The schematic map above shows the distribution of MPAs across the North East (inshore & offshore) Marine Plan areas.

If you are uncertain of the names of your local MPAs please click **HERE** to go to an interactive MPA map on the Joint Nature Conservation Committee (JNCC) website (opens in new tab). Zoom in to your area of interest on the interactive map until you are able to click on the MPA of your choice and obtain the site name and further information. Once you have identified your preferred MPA from the JNCC interactive map you can continue with this survey.

Q1b Please select the Marine Protected Area (MPA) that you are most familiar with from within the North East Marine Plan areas, and restrict your subsequent responses to this MPA:

○ Aln Estuary MCZ	○ Berwickshire and North Northumberland Coast SAC	○ Compass Rose MCZ
○ Coquet Island SPA	○ Coquet to St Mary's MCZ	○ Farnes East MCZ
○ Farnes East MCZ	○ Flamborough Head SAC	○ Fulmar MCZ
○ Lindisfarne SPA	○ North East of Farnes Deep MCZ	○ Northumberland Marine SPA
○ Northumbria Coast SPA	○ Runswick Bay MCZ	○ Southern North Sea SAC
○ Swallow Sand MCZ	○ Teesmouth and Cleveland Coast SPA	○ Tweed Estuary SAC
○ MPA name not known		

If you do not know the name of the MPA (or if you think it is missing from the list provided above) please provide us with information that we can use to identify it. For example: a recognisable place name, local features, whether the site is inter-tidal or offshore (if offshore, how far?).

Non-licensable activities in specific MPAs (North East Marine Plan areas) - selection of MPA

The following tables ask you to record information on the frequency, duration and spatial extent of non-licensable activities within the MPA that you selected. In addition, we are interested in your view on participation levels, and whether you expect participation to change over the coming years.

Across these tables the range of non-licensable activities have been subdivided to cover those that are predominantly water-based, those that are predominantly shore-based, and those that are predominantly aerial. This loose categorisation has been applied to help reduce the sizes of individual tables.

In asking the final question, regarding confidence, we are interested in knowing how confident are you regarding your responses for this activity. Please record confidence as:

- High - if you have good knowledge of this activity within the MPA (where it occurs, its intensity and frequency);
- Medium - if you have some knowledge about the intensity, frequency and spatial extent of the activity (for example, based on your own experience at an individual level);
- Low - if you know the activity occurs but you are not fully aware of its intensity, frequency or spatial coverage within the MPA.

The text in blue gives you the drop down options for that column – please select one.

Q2. For those **WATER-BASED** activities you know about, please identify the activity's spatial extent, intensity and level of participation within the [MPA_NAME1]:

Activity	How frequently does the activity occur?	What is the usual spatial extent of the activity across the MPA?	What is the usual duration of each occurrence of the activity?	On average, how many people are involved at the site at any one time?	Over the next two years, the trend in participation in the activity will be…	What is your overall confidence in your response for the activity?
Board sports	Does not occur	Does not occur	Does not occur	Does not occur	Less participation	High
Geophysical surveys	Regular / Daily	Across whole MPA	Less than 2 hours	1-5	No change	Medium
Motorboating	Regular / Mainly weekends	Specific areas within the MPA	2-4 hours	6-10	More participation	Low
Motorised personal watercraft	Sporadically (monthly)	Unsure/Don't know	4-8 hours	11-20	Unsure/ Don't know	Not applicable
Paddlesports	Seasonally		More than 8 hours	21-50		
Parascending	Unsure / Don't know		Unsure/Don't know	51-100		
Sailing				More than 100		
SCUBA diving				Unsure/ Don't know		
Snorkelling/swimming						
Towed watersports						
Wildlife watching (from vessel at sea)						

Notes:

- Board sports include surfing, kitesurfing & windsurfing
- Motorboating includes powerboats/speedboats & hovercraft (cruising)
- Motorised personal watercraft use includes Jetskis & Sea-Doos
- Paddlesports include Canadian canoeing, kayaking (sea-, surf-, or sit-on-top) & stand-up paddleboarding
- Parascending (aka parasailing or parakiting)
- Sailing includes dinghies, day boats, yachts & other small keelboats
- Towed watersports include wakeboarding & waterskiing

Q3. For those **SHORE-BASED** activities you know about, please identify the activity's spatial extent, intensity and level of participation within the [MPA_NAME1]:

	How frequently does the activity occur?	What is the usual spatial extent of the activity across the MPA?	What is the usual duration of each occurrence of the activity?	On average, how many people are involved at the site at any one time?	Over the next two years, the trend in participation in the activity will be…	What is your overall confidence in your response for the activity?
Bait collection	Does not occur	Does not occur	Does not occur	Does not occur	Less participation	High
Beach recreation	Regular / Daily	Across whole MPA	Less than 2 hours	1-5	No change	Medium
Coasteering	Regular / Mainly weekends	Specific areas within the MPA	2-4 hours	6-10	More participation	Low
Landboarding etc	Sporadically (monthly)	Unsure/Don't know	4-8 hours	11-20	Unsure/ Don't know	Not applicable
Motorsports	Seasonally		More than 8 hours	21-50		
Vehicle access	Unsure / Don't know		Unsure/Don't know	51-100		
Wildlife watching (from the shore)				More than 100		
				Unsure/ Don't know		

Notes:

- Bait collection includes digging/pumping/sieving (for lugworms and/or ragworms); crab-tiling (deployment of structures such as tiles, drain pipes or car tyres for gathering soft shell and peeler crabs); stone-turning/hand-gathering of mussels & winkles
- Beach recreation includes rockpooling, beach combing, beach games & sunbathing
- Landboarding etc. includes sand-yachting & kite-buggying
- Motorsport includes quad bikes & scramble bikes
- Vehicle access refers to car access to foreshore (e.g. beach car parks)

Q4. For those **AERIAL-BASED** activities you know about, please identify the activity's spatial extent, intensity and level of participation within the [MPA_NAME1]:

	How frequently does the activity occur?	What is the usual spatial extent of the activity across the MPA?	What is the usual duration of each occurrence of the activity?	On average, how many people are involved at the site at any one time?	Over the next two years, the trend in participation in the activity will be…	What is your overall confidence in your response for the activity?
Drone use	Does not occur	Does not occur	Does not occur	Does not occur	Less participation	High
Gliding (unpowered)	Regular / Daily	Across whole MPA	Less than 2 hours	1-5	No change	Medium
Powered flying	Regular / Mainly weekends	Specific areas within the MPA	2-4 hours	6-10	More participation	Low
	Sporadically (monthly)	Unsure/Don't know	4-8 hours	11-20	Unsure/ Don't know	Not applicable
	Seasonally		More than 8 hours	21-50		
	Unsure / Don't know		Unsure/Don't know	51-100		
				More than 100		
				Unsure/ Don't know		

Notes:

- Gliding (unpowered) includes paragliders & hang gliders
- Powered flying includes microlights, paramotors, small planes & (civilian, non-commercial) helicopters

Q5. If you indicated that one or more non-licensable activities are likely to be seasonal in their frequency of occurrence, please give further details below (e.g. activity name/type and a brief description of which months of the year are associated with high, medium, low (and/or zero) levels of activity).

Q6. If you indicated that one or more non-licensable activities are likely to be site-specific, please give further details below, e.g. activity name/type, and the location of the activity (site name and grid coordinates, or a brief description; please see the note below outlining how you can quickly identify the grid coordinates for a specific location).

Q7. If you indicated that any non-licensable activities are likely to show a change in their level of participation over the next two years (either increasing or decreasing), are you able to suggest any underlying reasons or causes? Please give details below.

Q8. Considering all of the non-licensable activities that you identified as occurring within your selected MPA, are they all recreational or do certain activities have a commercial basis? Using the list below please select those activities that you believe may have a commercial basis:

- Bait collection
- Beach recreation
- Board sports
- Coasteering
- Drone use
- Geophysical surveys
- Gliding (unpowered)
- Landboarding etc.
- Motorboating
- Motorised personal watercraft use
- Motorsport
- Paddlesports
- Parascending
- Powered flying
- Sailing
- SCUBA diving
- Swimming/snorkelling
- Towed watersports
- Vehicle access
- Wildlife watching (from a vessel at sea)
- Wildlife watching (from the shore)

If appropriate, please give brief details of activities' commercial components:

Q9. Considering all of the non-licensable activities that you identified as occurring within your selected MPA, are they all undertaken predominantly on an informal/ad-hoc basis or are some activities organised and pre-arranged? Please select, from the list below, those activities that you consider may be being undertaken as part of an organised event:

- Bait collection
- Beach recreation
- Board sports
- Coasteering
- Drone use
- Geophysical surveys
- Gliding (unpowered)
- Landboarding etc.
- Motorboating
- Motorised personal watercraft use
- Motorsport
- Paddlesports
- Parascending
- Powered flying
- Sailing
- SCUBA diving
- Swimming/snorkelling
- Towed watersports
- Vehicle access
- Wildlife watching (from a vessel at sea)
- Wildlife watching (from the shore)

If appropriate, please give brief details of activities' commercial components:

Q10. If you would like to provide any further background or clarification regarding the information that you have provided please use the space below.

The effects of non-licensable activities in the [MPA_NAME1]

Activities undertaken along our coasts and in our seas have the potential to affect the features designated within Marine Protected Areas. Protected features include birds, fish, marine mammals, intertidal habitats, subtidal habitats, geological features, marine benthos and vegetation. We are interested in your views regarding those activities that might have the greatest effects on protected features.

Q11. From the full list of non-licensable activities, please select the top three that you think have the greatest potential to affect designated features (protected animals, plants or habitats) within this Marine Protected Area.

1. Activity with the greatest potential to affect features in the MPA
2. Activity with the second greatest potential to affect features in the MPA
3. Activity with the third greatest potential to affect features in the MPA

Please use the space below to provide any further information on your top three (for example why you have selected them, or whether you feel that they may cause significantly greater effects compared to other activities). Also, if you selected 'other' as one of your top three, please give further details below.

Q12. Are you personally aware of effects on any animals, plants or habitats from any of the non-licensable activities mentioned above?
If yes, please use the space below to describe these effects
What is the basis for your view that an activity has an effect on one or more of the designated features (protected animals, plants or habitats) within the MPA (select all that apply)?

- Supposition only
- Personal experience
- Anecdotal (word-of-mouth) evidence
- Results and findings from one or more structured and reported studies

If, to help support this study, you are able to share any evidence on the effects that activities may have on features within MPAs then please briefly describe it below - if possible please email copies of any associated reports to iecs@hull.ac.uk

The control of non-licensable activities in the [MPA_NAME1]

Even though the marine activities included in this study are non-licensable, many may be controlled or regulated through existing statutory and voluntary management measures. We are interested in any such measures that you might be aware of.

Q13. Are you aware of any existing Codes of Conduct, other management initiatives, byelaws, etc. which currently regulate the activities you have identified?

If yes, please provide details below

Are these management initiatives specifically intended to protect one or more of the designated features within the Marine Protected Area?

If yes, please provide details below

If possible, please email any information on management measures to iecs@hull.ac.uk, or use the space below to provide web-links or other references to the relevant information

Q14. Are you able to provide information regarding non-licensable activities in a second MPA within the East Marine Plan areas?

If yes repeat survey.

Availability of background data on non-licensable activities

This study is currently collating information on the distribution of non-licensable marine activities by combining GIS datasets from previous studies with new data (where such data are available).

To help ensure that this activity-mapping is as accurate and up-to-date as possible we need to identify where relevant data can be found. We would therefore be grateful if you could provide any details of activity datasets that we could potentially include within the study. Such datasets may be in the form of:

- GIS datalayers
- Hand-drawn maps or other hard-copy figures that can be emailed or posted to us for digitising
- Data recorded on spreadsheets

Please note, we are interested in data that relates to any MPA in English waters. Please email any information through to iecs@hull.ac.uk, or contact us by phone (01482 466762) to discuss your data.

About you: your contact details and background
Thank you for completing this survey - please provide your contact details in the sections below.

Please be aware that all responses to this questionnaire will be fully anonymised. No responses that are reproduced in reports or other outputs from this study will be attributable to an individual.

- Asks for contact details
- Which sector they best represent
- Have they participated in any of the non-licensable activities
- Indication of the Marine Plan area within which they have participated in

- [ ] Yes, I would like to be considered for inclusion in a consultation workshop or further consultation exercises
- [ ] No, I do not wish to contribute further

Finally, one of the outputs of this study will be a series of maps presenting all of the data collated from the literature and through the various consultation exercises that are planned. We would like stakeholders to sense-check this information both for accuracy and for omissions through a series of regional workshops and further consultations. Please indicate if you would like to be considered for inclusion in either a regional workshop or another consultation exercise.

Annex 4 Workshop Presentations

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MMO 1136: Non-licensable activities in the marine environment

Institute of Estuarine & Coastal Studies (IECS) , University of Hull
The Wash and North Norfolk Marine Partnership

IECS | The Wash and North Norfolk Marine Partnership | Marine Management Organisation

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1. Welcome
2. Project Outline
3. Background and Work So Far
4. Aims and Objectives of the Workshop

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Project Outline:

The Marine Management Organisation (MMO) would like a robust evidence base on:

- the full range and types of marine non-licensable activities
- their current and potential intensity
- their risk of impact on marine protected areas

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Background:

Previous studies include:

- MMO 1013: compiled spatial data on marine recreational activities
- MMO 1043: spatial data Phase 2
- MMO 1064: modelling of marine recreation potential in England
- NECR 242: managing marine recreational activities: a review of evidence (Natural England/ABPmer)

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Current Project: MMO 1136

Non-licensable activities are still poorly understood. Therefore this current project will gather further evidence to generate:

- Better information on which areas are important for non-licensable activities = assist MMO Marine Planning Team
- Better information on extent and intensity
- Particularly where they occur in English MPAs = assist the MMO Nature Conservation Team

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Non-licensable activities

There are 21 categories of non-licensable activities included in this current project (20 recreational and 1 other non-recreational activity).

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MPAs:

Marine Protected Areas included are:

- Special Areas of Conservation (SACs)
- Special Protection Areas (SPAs)
- Marine Conservation Zones (MCZs)

➢ Currently designated – not proposed
➢ Occurring in English waters

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MMO 1136: Work so far

- Literature reviews of previous studies into recreational activities around the country
- Located and requested GIS datasets
- Mapped activities where data readily available on line – point data
- Mapping MPA designated features (NE)
- Pressures associated with the activities and feature sensitivities (MarESA)

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MMO 1136: Questionnaire

- Spatial location and extent (across the whole MPA or within specific locations).
- Participation rate (no. of people)
- Duration of the activities (hours)
- Frequency of the activity (daily to sporadically)

Confidence in their assessment.

- Evidence of impact on designated features

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MMO 1136: Responses

- Of the 192 MPAs in English waters, responses were received for 54 MPAs from 78 people.
- Most responded on 1 MPA, with a maximum of 7 people responding on the Wash and North Norfolk Coast SAC.
- 12 people answered on 2 different MPAs.
- Responses analysed and presented on factsheets
- Intensity of an activity calculated within an MPA:

Intensity = frequency x duration x participation

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MMO 1136: Workshops

These workshop aim to 'sense check' and validate the questionnaire results and previous mapping exercises.

10.15 – 12.15 Session 2: Spatial Distribution

- Still missing 'spatial extent' information. More clarity needed on where activities occur in the MPAs

12.15 – 13.00 Lunch

13.00 – 14.45 Session 3: Intensity and Future Trends

- Missing information to generate the activity intensity information
- Future trends

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MMO 1136: Workshops

14.45 – 15.00 Comfort break

15.00 – 16.00 Session 4: Discussion on Impacts

- Identify MPAs most at risk from particular activities.

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Session 2: Interactive Mapping

Aim: to provide greater detail on spatial extent of the 21 activities.

- Whole site or specific areas – if specific where?
- If mapped as 'Does not occur' is this correct?
- Use interactive layered pdfs to look at current mapped areas for that activity – are these representative?
- Draw lines, circles, areas on the maps to show spatial extent of activities.
- Capture information on seasonality.

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Session 2: Interactive Mapping

Aim: to provide greater detail on spatial extent of the 21 activities.

- Capture information on car parks
- Informal access points
- Launch sites (formal and informal)
- Organised activities (club / lessons)

- Don't be shy to draw on the maps!
- Use different coloured pens for different activities
- Make up your own key – please make it clear!
- Make notes on post it notes

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Session 3: Intensity and Future Trends

FREQUENCY X DURATION X PARTICIPATION

Frequency	
Regular/daily	4
Regular/mainly weekends	3
Seasonally	2
Sporadically (e.g. monthly)	1
Does not occur	0

Duration	
More than 8 hours	4
4-8 hours	3
2-4 hours	2
Less than 2 hours	1
Does not occur	0

Participation	
More than 100	6
51-100	5
21-50	4
11-20	3
6-10	2
1-5	1
Does not occur	0

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Session 3: Intensity and Future Trends

FREQUENCY X DURATION X PARTICIPATION

Score	Intensity	Combination of Scores
0	Does not occur	0 in all categories (does not occur)
1-8	Low intensity	A score of 2 or below in each of the three categories
9-20	Low-Med intensity	A combination of low and medium values
24-40	Med-High intensity	A combination of low, medium and high values
45-96	High intensity	Scored in the top 2 in all three categories

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Session 3: Intensity and Future Trends

Activity Intensity (frequency x duration x participation numbers) **and Extent:**

Board sports	H	SCUBA diving	M	Land boarding	M
Geophysical surveys		Snorkelling & swimming	H	Motorsports (quad bikes, motorbikes)	M
Motor-boating	H	Towed Water Sports	H	Vehicle access (cars on foreshore)	H
Jetskis	H	Wildlife watching on vessel at sea	L	Wildlife watching on land	
Paddle sports	H	Bait collection	H	Drone use at coast	M
Parascending	H	Beach recreation	H	Gliding (unpowered)	M
Sailing (non-motorised)	H	Coasteering		Aircraft (powered by engine)	H

EXTENT

No info available	Activity does not occur
Extensive across the whole MPA	Specific areas within the MPA

CONFIDENCE

High Confidence	H	Medium Confidence	M
Low Confidence	L	No confidence given	-

FUTURE TREND

Trend:
Increase: ↑
No change: →
Decrease: ↓

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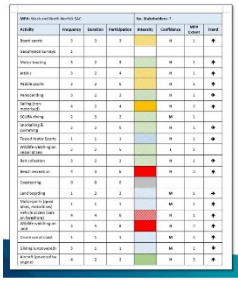
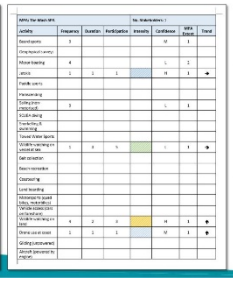
Session 3: Intensity and Future Trends





- Sense check questionnaire responses for individual MPAs.
- Fill in any data gaps.

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Session 4: Discussion of Potential Impacts and Pressures

For informed management decisions (may include 'no action necessary') responsible body (MMO, NE, JNCC, ETC.) need to know:

- Distribution of activities & their intensities
- Range of pressures potentially generated
- Distribution of features
- Sensitivities of features to pressures
  - Spatial coincidence (same place) – subtidal features and onshore activities
  - Temporal coincidence (same time) - breeding birds and seasonal activities

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Session 4: Discussion of Potential Impacts and Pressures

Topics for open discussion:

- Questions/concerns/clarifications …
- Views/thoughts:
  - What are the non-licensable activities thought to cause the greatest impacts/threats to designated features within MPAs in this region?
  - Which of the MPAs in this region are most at risk from non-licensable activities?

NB: The same format was used for all regional Stakeholder Workshops

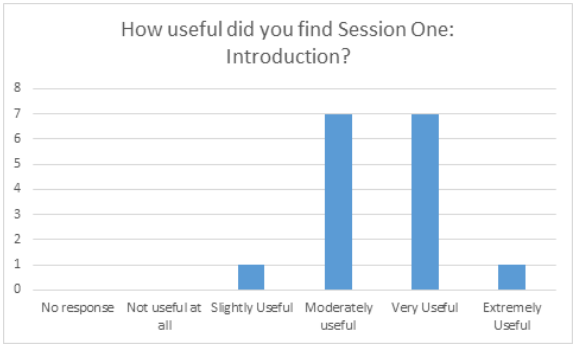
Annex 5 Workshop Attendees & Feedback

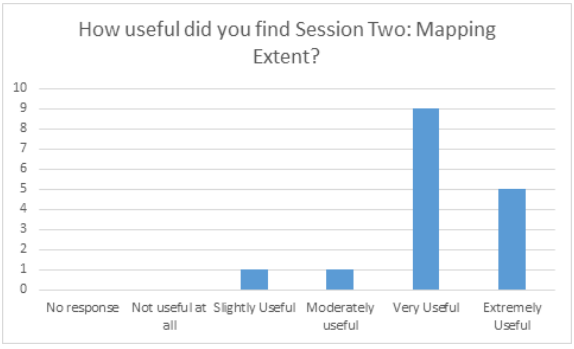
East and South East Stakeholder Workshop

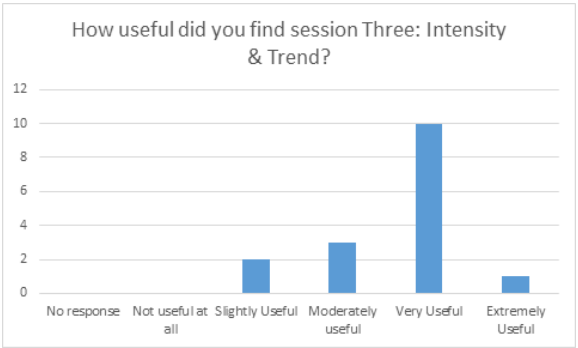
Representatives from the following organisations attended:

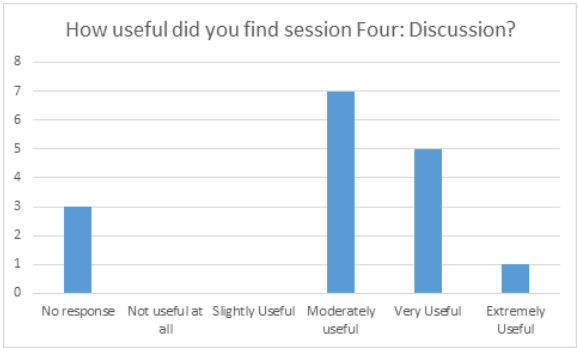
- British Association for Shooting and Conservation (BASC) Wildfowlers
- Eastern Inshore Fisheries Conservation Authority (IFCA)
- Essex Wildfowling Club
- Fenland Wildfowlers Association
- Holbeach and District Wildfowlers Association
- Holbeach Wildfowlers Association
- Lincolnshire Wildlife Trust
- Natural England
- Norfolk Coastal Partnership
- Norfolk Wildlife Trust
- Royal Society for the Protection of Birds (RSPB)
- Royal Yacht Association (RYA)
- The Wash and North Norfolk Marine Partnership (WNNMP)

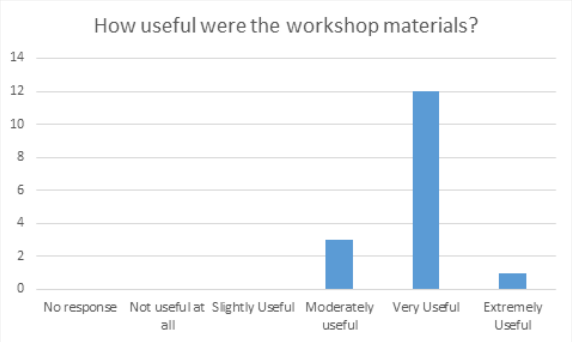
A summary of the feedback received from 16 of the 19 workshop attendees (n=16) is provided below.

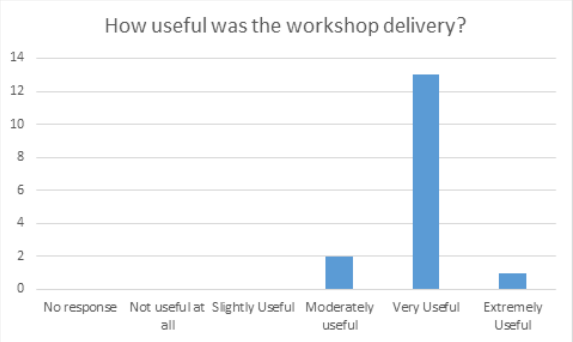


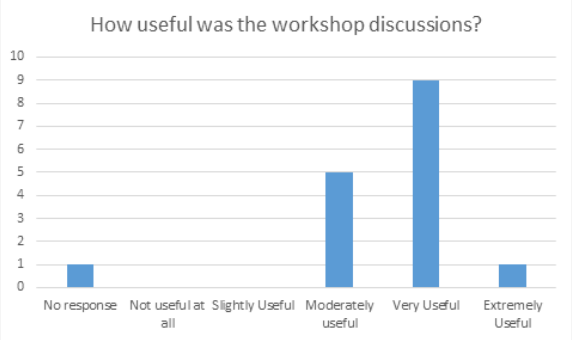


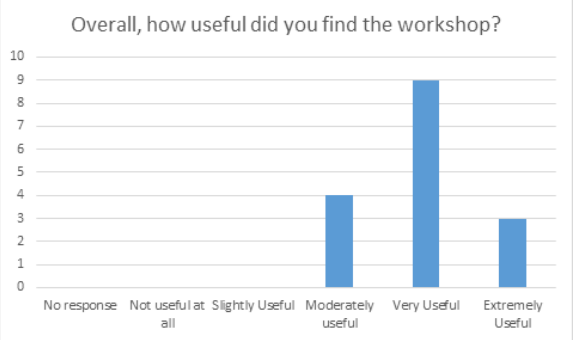





How useful were the workshop materials?
14
12
10
8
6
4
2
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful


How useful was the workshop delivery?
14
12
10
8
6
4
2
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful


How useful was the workshop discussions?
10
9
8
7
6
5
4
3
2
1
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful

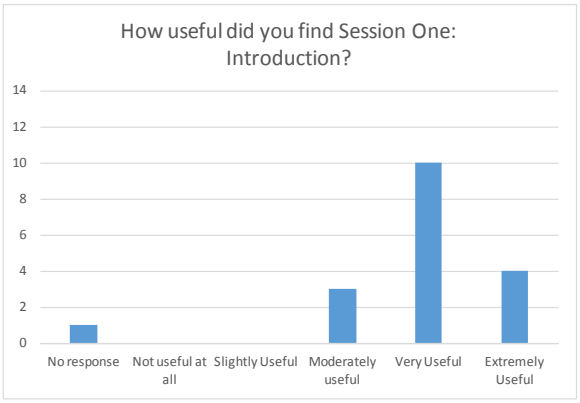

Overall, how useful did you find the workshop?
10
9
8
7
6
5
4
3
2
1
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful

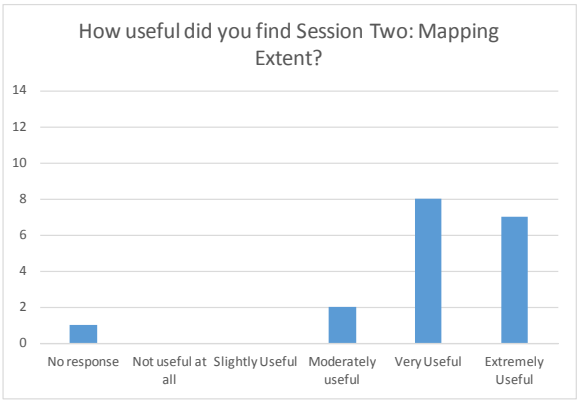
North East Stakeholder Workshop

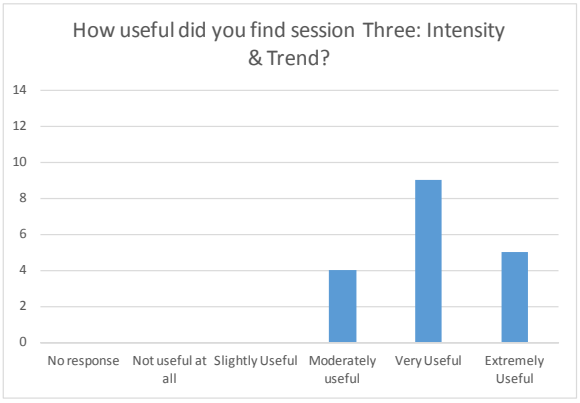
Representatives from the following organisations attended:

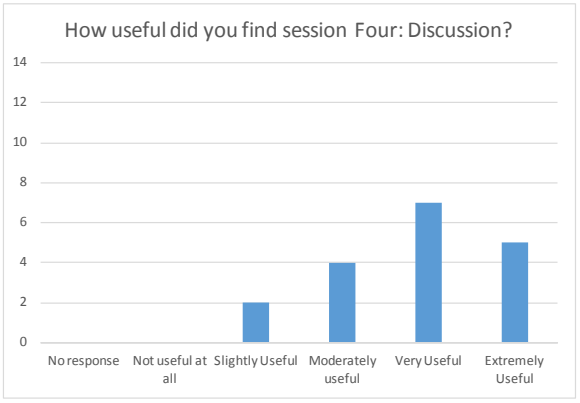
- Berwickshire and Northumberland Marine Nature Partnership
- CoastXplore Newcastle University
- Coquet Shorebase Trust, Amble
- Environment Agency
- Humber Nature Partnership
- Lindisfarne and Newham National Nature Reserves
- Marine Management Organisation (MMO)
- National Trust
- Natural England
- Newcastle University
- North East England Beached Birds Survey
- North Eastern IFCA
- Northumberland Area of Outstanding Natural Beauty (AONB)
- Northumberland IFCA
- Northumberland Tourist Board
- Regional Planning and Environment Co-ordinator, RYA
- St. Mary's Lighthouse and Visitor Centre

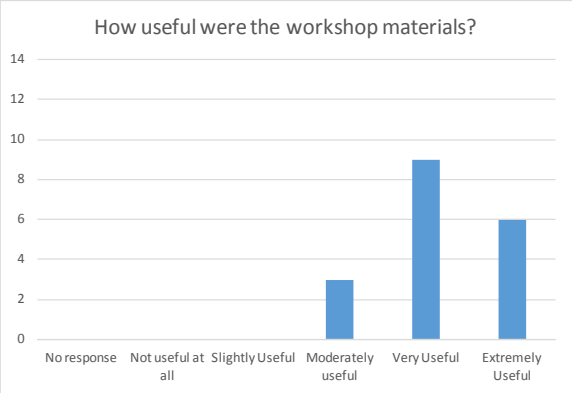
A summary of the feedback received from 18 of the 23 workshop attendees (n=18) is provided below.

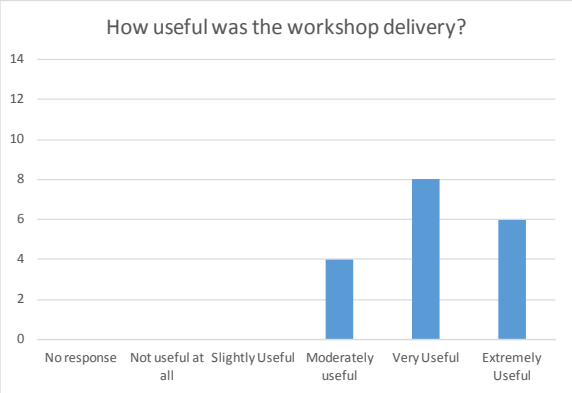


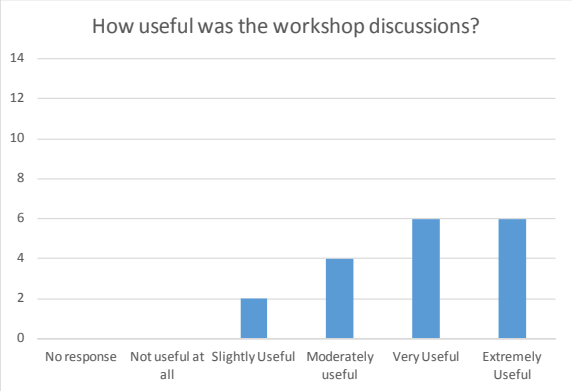


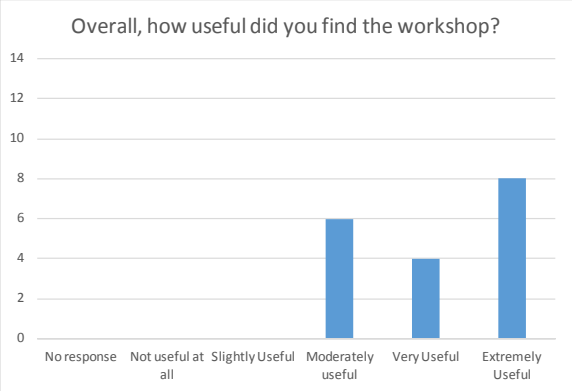





How useful were the workshop materials?
14
12
10
8
6
4
2
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful


How useful was the workshop delivery?
14
12
10
8
6
4
2
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful


How useful was the workshop discussions?
14
12
10
8
6
4
2
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful

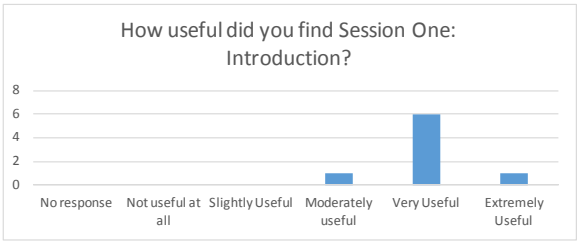

Overall, how useful did you find the workshop?
14
12
10
8
6
4
2
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful

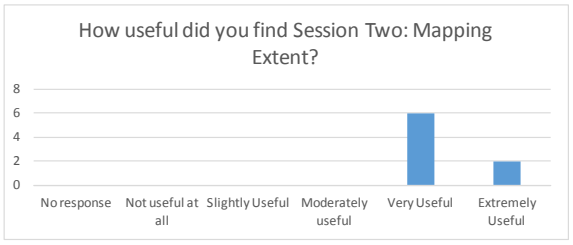
North West Stakeholder Workshop

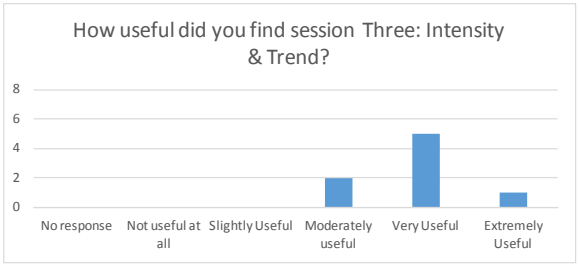
Representatives from the following organisations attended:

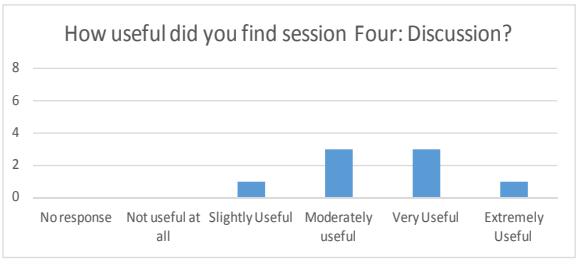
- British Canoeing
- Cheshire Wildlife Trust
- Cumbria Wildlife Trust
- Dee Estuary Conservation Group
- Environment Agency
- Natural England
- Preston and District Wildfowlers Association
- RYA

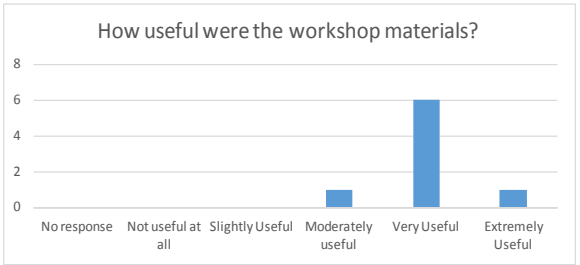
A summary of the feedback received from 8 of the 10 workshop attendees (n=8) is provided below.

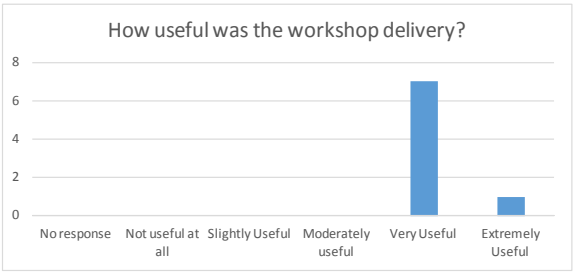


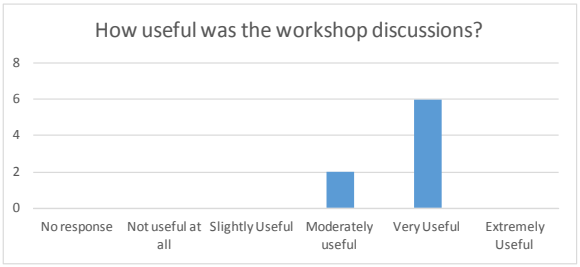


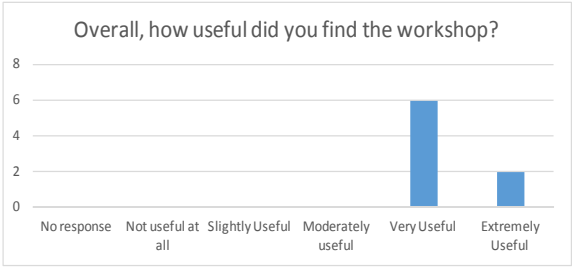









How useful was the workshop discussions?
8
6
4
2
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful

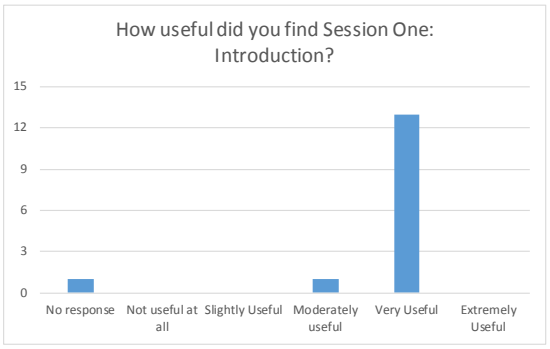

Overall, how useful did you find the workshop?
8
6
4
2
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful

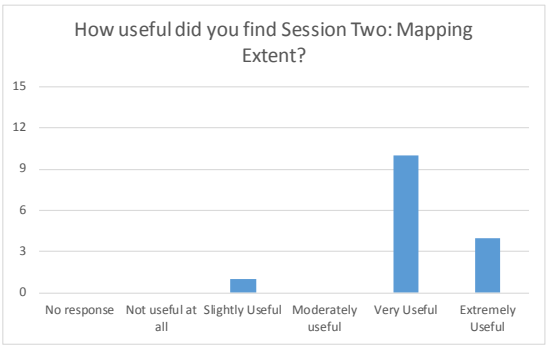
South and South West Stakeholder Workshop

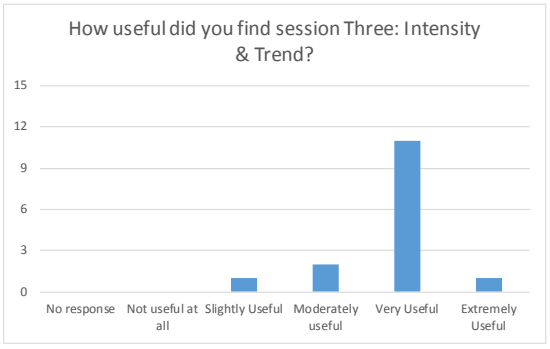
Representatives from the following organisations attended:

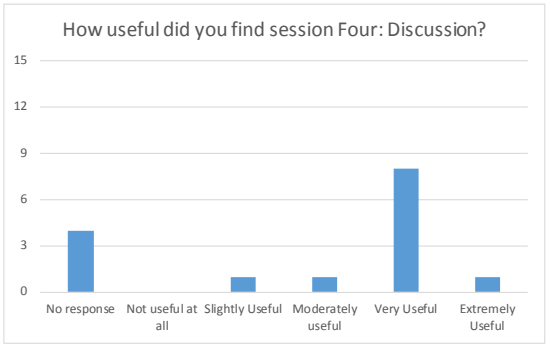
- British Canoeing
- Cornwall Seal Group Research Trust
- Cornwall Wildlife Trust
- Devon Council
- Devon Wildlife Trust / Wembrey Marine Centre
- Exe Estuary Partnership
- Exeter University
- Isles of Scilly IFCA
- Looe Marine Conservation Group
- MMO
- National Coasteering Charter
- RYA
- South Devon AONB Estuaries Officer
- Plymouth Council
- Three Bays Wildlife Group and Cornwall Seal Group Research Trust
- WiSE Scheme
- Worldwide Fund for Nature

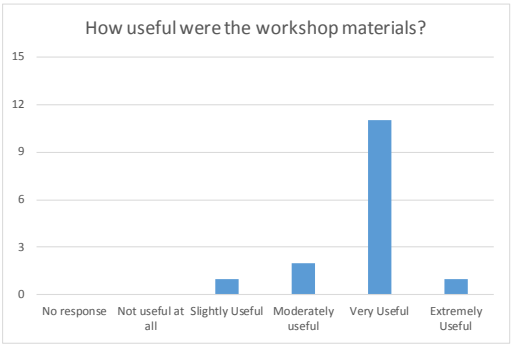
A summary of the feedback received from 15 of the 19 workshop attendees (n=15) is provided below.

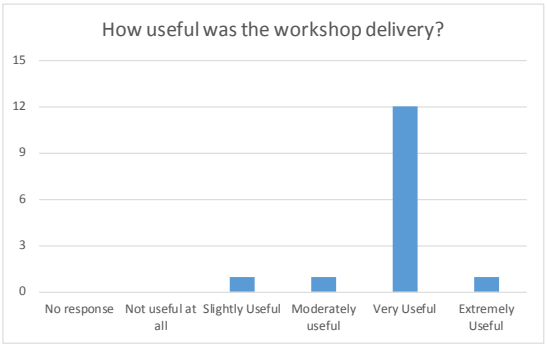


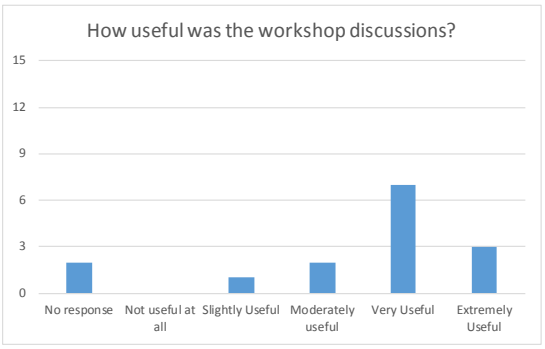


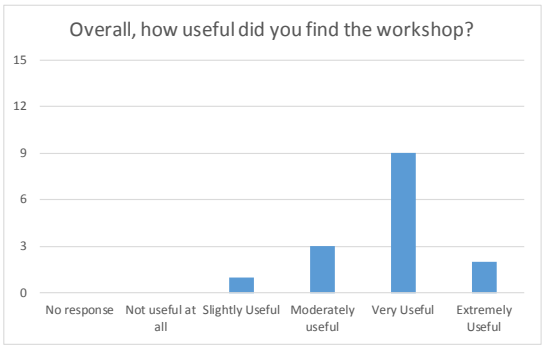





How useful were the workshop materials?
15
12
9
6
3
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful


How useful was the workshop delivery?
15
12
9
6
3
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful


How useful was the workshop discussions?
15
12
9
6
3
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful


Overall, how useful did you find the workshop?
15
12
9
6
3
0
No response
Not useful at all
Slightly Useful
Moderately useful
Very Useful
Extremely Useful

Annex 6 Summary of questionnaire responses for each marine region and MPA

North East	Responses
Total Responses:	**14**
Aln Estuary Marine Conservation Zone (MCZ)	1
Berwickshire & North Northumberland Coast Special Area of Conservation (SAC)	3
Compass Rose MCZ	0
Coquet Island SPA	0
Coquet to St Mary's MCZ	1
Farnes East MCZ	0
Farnes East MCZ	0
Flamborough Head SAC / Flamborough Head and Bempton Cliffs Special Protected Area (SPA)	4
Fulmar MCZ	0
Lindisfarne SPA	2
North East of Farnes Deep MCZ	0
Northumberland Marine SPA	0
Northumbria Coast SPA	2
Runswick Bay MCZ	0
Southern North Sea SAC	0
Swallow Sand MCZ	0
Teesmouth and Cleveland Coast SPA	1
Tweed Estuary SAC	0
Total North East Marine Protected Areas (MPAs): 18	**7 MPAs**

East Inshore and Offshore	Responses
Total Responses:	**15**
Alde, Ore and Butley Estuaries SAC	0
Alde-Ore Estuary SPA & MCZ	0
Breydon Water SPA	0
Cromer Shoal Chalk Beds MCZ	1
Deben Estuary SPA	0
Dogger Bank SAC	0
Gibraltar Point SPA	1
Haisborough, Hammond and Winterton SAC	0
Holderness Inshore MCZ	0
Holderness Offshore MCZ	0
Humber Estuary SAC & SPA	1
Inner Dowsing, Race Bank and North Ridge SAC	0
Kentish Knock East MCZ	0
Lincs Belt MCZ	0
Margate and Long Sands SAC	0
Markham's Triangle MCZ	0

East Inshore and Offshore (cont.)	Responses
Minsmere-Walberswick SPA	1
North Norfolk Coast SAC & SPA	3
North Norfolk Sandbanks and Saturn Reef SAC	0
Offshore Foreland MCZ	0
Orford Inshore MCZ	0
Orfordness - Shingle Street SAC	0
Outer Thames Estuary SPA	0
Silver Pit MCZ	0
Southern North Sea SAC	0
The Wash and North Norfolk Coast SAC	7
The Wash SPA	1
Wash Approach MCZ	0
Total East MPAs: 28	**7 MPAs**

South East	Responses
Total Responses:	**4**
Benfleet and Southend Marshes SPA	0
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA	0
Blackwater, Crouch, Roach and Colne Estuaries MCZ	1
Colne Estuary (Mid-Essex Coast Phase 2) SPA	0
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA	0
Dengie (Mid-Essex Coast Phase 1) SPA	0
Dover to Deal MCZ	0
Dover to Folkestone MCZ	0
Essex Estuaries SAC	0
Foulness (Mid-Essex Coast Phase 5) SPA	0
Goodwin Sands MCZ	0
Hamford Water SAC & SPA	0
Margate and Long Sands SAC	0
Medway Estuary and Marshes SPA	0
Medway Estuary MCZ	0
Offshore Foreland MCZ	0
Outer Thames Estuary SPA	0
Sandwich Bay SAC	1
Southern North Sea SAC	0
Stour and Orwell Estuaries SPA	1
Swale Estuary MCZ	0
Swale SPA	0
Thames Estuary and Marshes SPA	0
Thames Estuary MCZ	0
Thanet Coast and Sandwich Bay SPA	1
Thanet Coast SAC & MCZ	0
Total South East MPAs: 26	**4 MPAs**

South	Responses
Total Responses:	**11**
Axe Estuary MCZ	0
Bassurelle Sandbank SAC	0
Beachy Head East MCZ	0
Beachy Head West MCZ	2
Bembridge MCZ	0
Broad Bench to Kimmeridge Bay MCZ	0
Chesil and The Fleet SAC	0
Chesil Beach and Stennis Ledges MCZ	0
Chesil Beach and The Fleet SPA	0
Chichester and Langstone Harbours SPA	1
Dart Estuary MCZ	0
Dover to Folkestone MCZ	0
Dungeness SAC	0
Dungeness, Romney Marsh and Rye Bay SPA	0
East Meridian (Eastern section) MCZ	0
East Meridian MCZ	0
Exe Estuary SPA	1
Fareham Creek MCZ	0
Folkestone Pomerania MCZ	0
Hythe Bay MCZ	0
Inner Bank MCZ	0
Kingmere MCZ	2
Lyme Bay and Torbay SAC	1
Needles MCZ	0
Norris to Ryde MCZ	0
Offshore Brighton MCZ	0
Offshore Foreland MCZ	0
Offshore Overfalls MCZ	0
Otter Estuary MCZ	0
Pagham Harbour SPA & MCZ	0
Poole Harbour SPA	1
Poole Rocks MCZ	0
Portsmouth Harbour SPA	0
Selsey Bill and the Hounds MCZ	0
Skerries Bank and Surrounds MCZ	0
Solent and Isle of Wight Lagoons SAC	0
Solent and Southampton Water SPA	1
Solent Maritime SAC	1
South Dorset MCZ	0
South of Portland MCZ	0
South Wight Maritime SAC	0
Studland Bay MCZ	0
Studland to Portland SAC	1
Torbay MCZ	0

South (cont.)	Responses
Utopia MCZ	0
Wight-Barfleur Extension MCZ	0
Wight-Barfleur Reef SAC	0
Yarmouth to Cowes MCZ	0
Total South MPAs: 48	**9 MPAs**

South West	Responses
Total Responses:	**17**
Bideford to Foreland Point MCZ	1
Bristol Channel Approaches / Dynesfeydd Mrr Hafren SAC	0
Camel Estuary MCZ	0
Canyons MCZ	0
Cape Bank MCZ	0
Devon Avon Estuary MCZ	0
East of Haig Fras MCZ	0
East of Jones Bank MCZ	0
Erme Estuary MCZ	0
Fal and Helford SAC	0
Falmouth Bay to St Austell Bay SPA	3
Greater Haig Fras MCZ	0
Haig Fras SAC	0
Hartland Point to Tintagel MCZ	1
Isles of Scilly Complex SAC	1
Isles of Scilly Sites - Bishop to Crim MCZ	0
Isles of Scilly Sites - Bristows to the Stones MCZ	0
Isles of Scilly Sites - Gilstone to Gorregan MCZ	0
Isles of Scilly Sites - Hanjague to Deep Ledge MCZ	0
Isles of Scilly Sites - Higher Town MCZ	0
Isles of Scilly Sites - Lower Ridge to Innisvouls MCZ	0
Isles of Scilly Sites - Men a Vaur to White Island MCZ	0
Isles of Scilly Sites - Peninnis to Dry Ledge MCZ	0
Isles of Scilly Sites - Plympton to Spanish Ledge MCZ	0
Isles of Scilly Sites - Smith Sound Tide Swept Channel MCZ	0
Isles of Scilly Sites - Tean MCZ	0
Lands End and Cape Bank SAC	1
Lizard Point SAC	1
Lundy SAC & MCZ	0
Lyme Bay and Torbay SAC	0
Manacles MCZ	0
Morte Platform MCZ	0
Mounts Bay MCZ	0
Newquay and The Gannel MCZ	2
North of Lundy MCZ	0
North-East of Haig Fras MCZ	0
North-West of Jones Bank MCZ	0
Padstow Bay and Surrounds MCZ	1
Plymouth Sound and Estuaries SAC	2

South West (cont.)	Responses
Runnel Stone (Land's End) MCZ	0
Severn Estuary/ Mdr Hafren SAC & SPA	1
Skerries Bank and Surrounds MCZ	0
South of Celtic Deep MCZ	0
South of Falmouth MCZ	0
South of the Isles of Scilly MCZ	0
South-East of Falmouth MCZ	0
South-West Deeps (East) MCZ	0
South-West Deeps (West) MCZ	0
Start Point to Plymouth Sound & Eddystone SAC	1
Tamar Estuaries Complex SPA	0
Tamar Estuary Sites MCZ	0
Taw Torridge Estuary MCZ	0
Upper Fowey and Pont Pill MCZ	0
Western Channel MCZ	0
Whitsand and Looe Bay MCZ	2
Total South West MPAs: 55	**12 MPAs**

North West	Responses
Total Responses:	**17**
Allonby Bay MCZ	1
Cumbria Coast MCZ	1
Dee Estuary SPA & SAC	3
Drigg Coast SAC	1
Fylde MCZ	1
Liverpool Bay SPA	1
Mersey Estuary SPA	1
Mersey Narrows and North Wirral Foreshore SPA	1
Morecambe Bay and Duddon Estuary SPA	1
Morecambe Bay SAC	1
Mud Hole MCZ	0
Ribble and Alt Estuaries SPA	2
Shell Flat and Lune Deep SAC	1
Solway Firth SAC	1
Upper Solway Flats and Marshes SPA	1
West of Walney MCZ	0
Total North West MPAs: 16	**14 MPAs**

Annex 7 Pressure Lists

ICG (OSPAR) Full Pressure List

A list of marine pressures and their descriptions was prepared by the OSPAR Intercessional Correspondence Group on Cumulative Effects (ICG-C).

High: High potential/likelihood of occurrence through one or more of those non-licensed activities under consideration
Moderate: Moderate potential/likelihood of occurrence through one or more of those non-licensed activities under consideration
Low: Low potential/likelihood of occurrence through one or more of those non-licensed activities under consideration
Negligible: Negligible potential/likelihood of occurrence through one or more of those non-licensed activities under consideration

Pressure code	ICG (OSPAR) pressures
ICG-P.1	Physical loss (to land or freshwater habitat)
ICG-P.2	Physical loss (to another seabed type)
ICG-P.3	Changes in suspended solids (water clarity)
ICG-P.4	Siltation rate changes, including smothering
ICG-P.5	Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion
ICG-P.6	Habitat structure changes – removal of substratum (extraction)
ICG-P.7	Electromagnetic changes
ICG-P.8	Introduction of light
ICG-P.9	Barrier to species movement
ICG-P.10	Death or injury by collision
ICG-P.11	Above-water noise changes
ICG-P.12	Underwater noise changes
ICG-P.13	Litter
ICG-P.14	Water flow (tidal current) changes – local, including sediment transport considerations
ICG-P.15	Emergence regime changes – local, including tidal level change considerations
ICG-P.16	Wave exposure changes - local
ICG-P.17	Temperature changes - local
ICG-P.18	Salinity changes - local
ICG-P.19	Synthetic compound contamination (inc. pesticides, antifoulant, pharmaceuticals)
ICG-P.20	Transition elements and organo-metal (e.g. TBT contamination)
ICG-P.21	Hydrocarbon and PAH contamination
ICG-P.22	Radionuclide contamination

ICG-P.23	Introduction of other substances (solid, liquid or gas)
ICG-P.24	Deoxygenation
ICG-P.25	Nutrient enrichment
ICG-P.26	Organic enrichment
ICG-P.27	Visual disturbance
ICG-P.28	Genetic modification and translocation of indigenous species
ICG-P.29	Introduction of microbial pathogens
ICG-P.30	Introduction or spread of non-indigenous species
ICG-P.31	Removal of target species
ICG-P.32	Removal of non-target species

Shortlist of 12 pressure relevant to non-licensable activities

High: High potential/likelihood of occurrence through one or more of those non-licensed activities under consideration
Moderate: Moderate potential/likelihood of occurrence through one or more of those non-licensed activities under consideration
Low: Low potential/likelihood of occurrence through one or more of those non-licensed activities under consideration

ICG-P.10	Death or injury by collision
ICG-P.11	Above-water noise changes
ICG-P.13	Litter
ICG-P.27	Visual disturbance
ICG-P.31	Removal of target species
ICG-P.4	Siltation rate changes, including smothering
ICG-P.5	Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion
ICG-P.32	Removal of non-target species
ICG-P.3	Changes in suspended solids (water clarity)
ICG-P.12	Underwater noise changes
ICG-P.19	Synthetic compound contamination (inc. pesticides, antifoulant, pharmaceuticals)
ICG-P.21	Hydrocarbon and PAH contamination

Shortlist of key pressures cross-referenced with pressure codes (and descriptions) from MarESA (or MB0102) sensitivity assessments. Now including ‘Abrasion/disturbance of substrate surface’ and subdividing ‘Smothering and siltation rate change’ into heavy and light.

Pressure code	ICG (OSPAR) pressures	NE_Code	Pressure
ICG-P.10	Death or injury by collision	O6b	Collision BELOW water with static or moving objects not naturally found in the marine environment (e.g., boats, machinery, and structures)
ICG-P.11	Above-water noise changes		

ICG-P.13	Litter	O1	Litter
ICG-P.27	Visual disturbance	B1	Visual disturbance
ICG-P.31	Removal of target species	B5	Removal of target species
ICG-P.4	Siltation rate changes, including smothering	D4, D5	Smothering and siltation rate changes (Heavy)
ICG-P.4	Siltation rate changes, including smothering	D4, D5	Smothering and siltation rate changes (Light)
ICG-P.5	Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion	D2	Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion
ICG-P.32	Removal of non-target species	B6	Removal of non-target species
ICG-P.3	Changes in suspended solids (water clarity)	D3	Changes in suspended solids (water clarity)
ICG-P.12	Underwater noise changes	O3	Underwater noise changes
ICG-P.19	Synthetic compound contamination (inc. pesticides, antifoulant, pharmaceuticals)	P3	Synthetic compound contamination (incl. pesticides, antifoulants, pharmaceuticals). Includes those priority substances listed in Annex II of Directive 2008/105/EC.
ICG-P.21	Hydrocarbon and PAH contamination	P2	Hydrocarbon & PAH contamination. Includes those priority substances listed in Annex II of Directive 2008/105/EC.
			Abrasion/disturbance of substrate surface

Annex 8 Designated features (birds and assemblages) and their sensitivity to activity pressures

Where available, sensitivity assessments were taken from MB0102; where suitable data were not available best expert judgement was applied (indicated as white text on a dark grey background). Where sensitivity to a pressure was defined as a range, a precautionary approach (taking the most sensitive value) has been applied.

Key to sensitivity codes: **NA**: Not assessed **L**: Low sensitivity **NR**: Not relevant (e.g. feature not exposed to, or not receptive to, pressure) **M**: Medium sensitivity **NS**: Not sensitive **H**: High sensitivity **Features – bird species and assemblages (feature type, code and description)**				P1: Above water noise	P2: Abrasion/disturbance of the substrate on the surface of the seabed	P3: Changes in suspended solids (water clarity)	P4: Collision below water with static or moving objects	P5: Hydrocarbon & PAH contamination	P6: Litter	P7: Penetration/disturbance of substratum below seabed surface (inc.abrasion)	P8: Removal of non-target species	P9: Removal of target species	P10: (Heavy) smothering and siltation rate changes	P11: (Light) smothering and siltation rate changes	P12: Synthetic compound contamination (incl. pesticides, antifoulants, pharmaceuticals)	P13: Underwater noise changes	P14: Visual disturbance
Breeding birds	Shorebird (terrestrial / intertidal)	A132_b	Avocet	H	NR	NS	NR	L	L	NS	L	L	NS	NS	NA	NS	NA
		A151_b	Ruff	H	NR	NS	NR	L	L	NS	L	L	NS	NS	NA	NS	NA
		A192_b	Roseate tern	H	NR	NS	NR	L	L	NS	L	L	NS	NS	NA	NS	NA
		A193_b	Common tern	H	NR	NS	NR	L	L	NS	L	L	NS	NS	NA	NS	NA
		A194_b	Arctic tern	H	NR	NS	NR	L	L	NS	L	L	NS	NS	NA	NS	NA
		A195_b	Little tern	H	NR	NS	NR	L	L	NS	L	L	NS	NS	NA	NS	NA
	Terrestrial (coastal)	A176_b	Mediterranean gull	H	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A183_b	Lesser black-backed gull	H	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A188_b	Kittiwake	H	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A191_b	Sandwich tern	H	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A021_b	Bittern	H	NR	NS	NR	L	L	NS	L	L	NS	NS	NA	NS	NA

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	Terrestrial (non coastal)	A081_b	Marsh harrier	H	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
Breeding birds (cont)		A084_b	Montagu's harrier	H	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
	Seabirds	AS_1_b	Seabird assemblage	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-breeding birds	Shorebird (terrestrial / intertidal)	A037_nb	Bewick's swan	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A038_nb	Whooper swan	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A040_nb	Pink-footed goose	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A046a_nb	Dark-bellied brent goose	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A048_nb	Shelduck	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A050_nb	Wigeon	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A054_nb	Pintail	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A056_nb	Shoveler	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A069_nb	Red-breasted merganser	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A130_nb	Oystercatcher	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A132_nb	Avocet	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A137_nb	Ringed plover	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A140_nb	Golden plover	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA

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		A141_nb	Grey plover	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A143_nb	Knot	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
Non-breeding birds (cont)		A144_nb	Sanderling	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A148_nb	Purple sandpiper	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A149_nb	Dunlin	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A151_nb	Ruff	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A156_nb	Black-tailed godwit	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A157_nb	Bar-tailed godwit	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A160_nb	Curlew	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A162_nb	Redshank	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A169_nb	Turnstone	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
	Terrestrial (non coastal)	A082_nb	Hen harrier	M	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
		A052_nb	Teal	H	NR	NS	NR	L	L	NS	L	L	L	L	NA	NS	NA
	Seabirds	A002_nb	Black-throated diver	M	NR	L	NR	L	L	NS	L	L	NS	NS	L	L	NA
		A003_nb	Great northern diver	M	NR	L	NR	L	L	NS	L	L	NS	NS	NA	L	NA
	Waterbirds	A007_nb	Slavonian grebe	M	NR	NS	NR	L	L	NS	L	L	NS	NS	NA	NS	NA
		A021_nb	Bittern	M	NR	NS	NR	L	L	NS	L	L	NS	NS	NA	NS	NA
		AS_2_nb	Waterbird assemblage	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Annex 9 Designated features (habitats and species) and their sensitivity to activity pressures

Where available, sensitivity assessments were taken from MB0102; where suitable data were not available best expert judgement was applied (indicated as white text on a dark grey background). Where sensitivity to a pressure was defined as a range, a precautionary approach (taking the most sensitive value) has been applied.

Key to sensitivity codes: **NA**: Not assessed **L**: Low sensitivity **NR**: Not relevant (e.g. feature not exposed to, or not receptive to, pressure) **M**: Medium sensitivity **NS**: Not sensitive **H**: High sensitivity **Features (habitats and species) (feature code & description)**			P1: Above water noise	P2: Abrasion/disturbance of the substrate on the surface of the seabed	P3: Changes in suspended solids (water clarity)	P4: Collision below water with static or moving objects	P5: Hydrocarbon & PAH contamination	P6: Litter	P7: Penetration/disturbance of substratum below seabed surface (inc.abrasion)	P8: Removal of non-target species	P9: Removal of target species	P10: (Heavy) smothering and siltation rate changes	P11: (Light) smothering and siltation rate changes	P12: Synthetic compound contamination (incl. pesticides, antifoulants, pharmaceuticals)	P13: Underwater noise changes	P14: Visual disturbance
EUNIS broad scale habitats	A1.1	High energy intertidal rock	NR	M	H	NR	NS	NA	M	NS	NS	L	L	NS	NS	NS
	A1.2	Moderate energy intertidal rock	NR	M	NS	NR	NS	NA	H	NS	NS	H	L	NS	NS	NS
	A1.3	Low energy intertidal rock	NR	H	NS	NR	NS	NA	H	NS	NS	H	H	NS	NS	NS
	A2.1	Intertidal coarse sediment	NR	NS	NS	NR	NS	NA	NS	NR	NR	L	L	NS	NS	NS
	A2.2	Intertidal sand and muddy sand	NR	L	NS	NR	NS	NA	L	M	M	M	M	NS	NS	NS
	A2.3	Intertidal mud	NR	NS	NS	NR	NS	NA	L	M	M	L	NS	NS	NS	NS
	A2.4	Intertidal mixed sediments	NR	M	M	NR	NS	NA	H	M	M	H	M	NS	NS	NS
	A3.1	High energy infralittoral rock	NR	M	M	NR	NS	NA	M	M	M	H	NS	NS	NS	NS
	A3.2	Moderate energy infralittoral rock	NR	M	M	NR	NS	NA	H	M	M	H	NS	NS	NS	NS
	A4.2	Moderate energy circalittoral rock	NR	H	H	NR	NS	NA	H	H	M	H	H	NS	NS	NS
	A5.1	Subtidal coarse sediment	NR	H	NS	NR	NS	NA	H	M	NS	M	M	NS	NS	NS
	A5.2	Subtidal sand	NR	M	NS	NR	NS	NA	M	M	NS	H	M	NS	NS	NS
	A5.3	Subtidal mud	NR	M	NS	NR	NS	NA	M	M	M	M	L	NS	NS	NS
	A5.4	Subtidal mixed sediments	NR	M	M	NR	NS	NA	H	M	L	M	NS	NS	NS	NS

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Other habitats	H1110	Sandbanks which are slightly covered by sea water all the time	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1140	Mudflats and sandflats not covered by seawater at low tide	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1150	Coastal lagoons	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1170	Reefs	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1210	Annual vegetation of drift lines	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1220	Perennial vegetation of stony banks	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1230	Vegetated sea cliffs of the Atlantic and Baltic coasts	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1310	*Salicornia* and other annuals colonising mud and sand	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1330	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1420	Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H2110	Embryonic shifting dunes	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H2120	Shifting dunes along the shoreline with *Ammophila arenaria* (“White dunes”)	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	H2130	Fixed dunes with herbaceous vegetation (“Grey dunes”)	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H2160	Dunes with *Hippophae rhamnoides*	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H2190	Humid dune slacks	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H8330	Submerged or partially submerged sea caves	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	HOCI_10	Intertidal under boulder communities	NR	M	NA	NR	NS	NA	H	NS	M	M	L	NS	NS	NS
	HOCI_15	Peat and clay exposures	NR	NS	NS	NR	NS	NA	L	L	NS	L	NS	NS	NS	NS
Habitat complexes	H1130	Estuaries	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	H1160	Large shallow inlets and bays	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mobile fish species	S1095	Sea lamprey	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	S1099	River lamprey	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mobile mammal species	S1355	Otter	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	S1364	Grey seal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	S1365	Harbour (common) seal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Plant species	S1395	Petalwort	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	S1441	Shore dock	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA