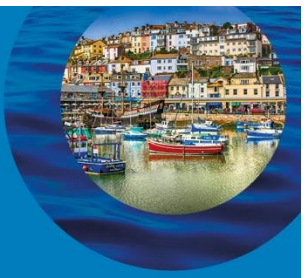
Marine Management Organisation

Decision document:

Inner Dowsing, Race Bank and North Ridge SAC Call for Evidence



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1. Introduction

Between 28 October and 15 December 2020 the MMO ran a call for evidence to seek views on the draft assessments of the impacts of fishing and non-licensable activities in five marine protected areas (MPAs).

The four MPAs which are being assessed for the impact of fishing are:

- The Canyons Marine Conservation Zone (MCZ);
- Dogger Bank Special Area of Conservation (SAC);
- Inner Dowsing, Race Bank, North Ridge SAC;
- South Dorset MCZ.

Studland Bay MCZ is being assessed for the impact of marine non-licensable activities.

Further details on the call for evidence are provided here.

This document presents a summary of the call for evidence responses received and the decision for the next steps for Inner Dowsing, Race Bank and North Ridge SAC.

2. Inner Dowsing, Race Bank and North Ridge SAC

Inner Dowsing, Race Bank and North Ridge SAC was formally designated as a site of Community importance (SCI) in November 2011. The site was formally designated as a SAC on 29 September 2017. The site has two designated features:

- reefs; and
- sandbanks which are slightly covered by sea water all the time.

The conservation objectives for the Inner Dowsing, Race Bank and North Ridge SAC are set out in the Natural England and Joint Nature Conservation Committee (JNCC) conservation advice and are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of the qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of the qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of each of the qualifying species
- the distribution of qualifying species within the site

The SAC extends from near inshore waters within 6 nautical miles (nm), out into the UK exclusive economic zone (EEZ) beyond 12 nm. The Eastern Inshore Fisheries and Conservation Authority are the principal regulator for fisheries management within 6 nm, and are responsible for assessing and managing the impacts of fishing within this area. The MMO assessment and management of fishing within the SAC is therefore focussed on the part of the site offshore of 6 nm.

3. Assessment of the effects of fishing activities

The MMO assessment of fishing impacts at this site beyond 6 nm, taking into account advice from Natural England and JNCC, and scientific literature, concluded that both sandbank and reef features are sensitive to the impact of demersal fishing activities and that the reef feature is sensitive to the impacts of static gears (pots, anchored nets and lines), and that these interactions may be resulting in an adverse effect on site integrity. Management of fishing activity is therefore be required to support the achievement of the conservation objectives for the SAC.

4. Call for evidence responses

4.1 Methodology for collecting responses

The call for evidence included an online survey which presented multiple management options fishing activities.

Questions sought evidence and views from stakeholders on management options for each activities and asked for information about the location, condition and sensitivity of designated features as well as the level or nature of fishing within the site.

Stakeholders also had the option to answer the questions to consider in the call for evidence letter via email. A number of responses were received in this way and have been considered alongside the survey responses.

Table 1: Number of responses to the Inner Dowsing Race Bank and North Ridge SAC call for evidence by method.

	Online survey	**Novel email responses**
Number of responses	8	10

4.2 Inner Dowsing, Race Bank and North Ridge SAC survey responses

4.2.1 Do you have information about the location, condition or sensitivity of the designated features?

Respondents commented that:

- As the site is close to the Lincolnshire coast, it is likely to be accessed by under 15 m vessels, particularly shrimp and whitefish beam trawlers from the ports of Boston, Grimsby and Kings Lynn.

- Benthic habitats are sensitive to bottom towed gear which can adversely affect the integrity of sites and the species dependant on them. The features and sub-features of Inner Dowsing, Race Bank and North Ridge SAC are sensitive to such methods of fishing.

- There is a wide range of scientific literature and evidence showing the major impacts and degrading effects bottom trawling has on benthic habitats including reducing species diversity of infauna and epifauna communities and resulting in bycatch of non-target species. Some of these are referenced in the MMO assessment for this site and a literature review of the seabed impacts of bottom trawling was provided. In addition, data analysis by the Marine Conservation Society (MCS) calculated fishing activity in the site between 2015 and 2018, indicating that just under 50% of the site was fished by over 15 metre vessels (using Automatic Identification System (AIS) data) during these four years.

4.2.2 Do you have information about the level or nature of fishing activity within the site?

- Data analysis by the MCS recorded only 31.7 fishing hours of data from Global Fishing Watch, which analysed active fishing, in the site between 2015 and 2018 for over 15 m vessels that were operating bottom towed fishing gear. The data found that active areas of fishing were most concentrated to the west of the site near or over the Lynn Knock reef complex where there has been recent increased records of *Sabellaria spinulosa* reef distribution. The data suggested that other areas of the site have seen minimal fishing effort by large UK trawlers is the east.

- Oceana analyses found 1,037 fishing hours recorded in 2019 using bottom towed gear in the SAC.

4.2.3 How would each of the proposed management options affect you?

The following summarises the impacts people stated for each of the options. These are either impacts to themselves or other impacts.

Option 1: No fisheries restrictions. Introduce a monitoring and control plan within the site.

- One respondent stated that option 1 would have no impact to ongoing fishing interests.

- Two respondents thought option 1 would not be beneficial to the site, stating it would not allow fish a safe haven and would be counter to the Habitats Regulations, Marine Strategy Regulations and other national and international laws.

Option 2: Reduce/limit pressures.

- Two respondents thought this would provide benefits to the site, with one respondent stating it would benefit the local environment and increase fish populations nearby due to spillover. The respondent stated this would require monitoring of vessels at sea to ensure compliance.

- Two respondents thought this option was insufficient, including reasons such as option 2 not significantly helping to meet the UK's biodiversity and climate goals, and still being counter to the Habitats Regulations, Marine Strategy Regulations and other national and international laws.

Option 3: Remove/avoid pressures (whole site prohibition).

- One respondent stated that option 3 was not necessary, due to the inshore fishing in the region being important.

- Other respondents suggested that option 3 was the best option for the site, providing the following reasons:

    - The uncertainty in relation to feature delineation, as well as potential for broad-scale migration of the sandbank feature and finer scale oscillation due to hydrological processes. This also applies to the reef feature.

    - A prohibition on all damaging fishing activity across the whole site will allow the vulnerable conservation features of this site to recover to past levels of health, productivity, biodiversity and abundance.

    - A complete cessation of all bottom towed fishing gear would not be deleterious to the large trawling fleet, as the effort within the site is very low (under one days fishing per year between 2015 and 2018). Although there may be more serious ramifications for smaller vessels over 10 but under 15 m that steam from the coast of Lincolnshire, South Yorkshire and Norfolk, the balance of socio-economics of restriction of the site to the benefits to the seafloor, carbon sequestration and storage capacity of the site would outweigh any small restriction to access to local fishing vessels.

    - An assessment of the carbon storage capacity of the site based on Luisetti *et al*., 2019 illustrates that a potential 0.17 mega tonnes of carbon is stored in the shelf sediments of the site in the current area AIS data reveals is

fished. Based on the findings of a Climate Change and Continuous Growth model in Luisetti *et al*., 2019, around £7.5m of carbon storage potential would be lost were trawling be continued in current fished area by 2040 (that is based on the approximately 170,000 tonnes of organic carbon locked into seabed sediments at this site within the current areas mapped as having been fished). As the site is 98% sediment, using the above metrics, the entire site contains 344,000 Mtonnes organic carbon (within 831 square kilometres of seabed) that would relate to a potential £15.3m loss of carbon storage potential by 2040 were trawling to be permitted.

- A whole site prohibition for bottom towed fishing gear is necessary to conserve the integrity of the whole site as required by the Habitats Regulations, Marine Strategy Regulations and other national and international laws.

- Option 3 is the only acceptable option to properly protect the site.

4.2.4 What other effects will each of the proposed management options have?

Option 1: No fisheries restrictions. Introduce a monitoring and control plan within the site.

- A respondent stated there would be no effects on commercial interests in the short term, however there could be degradation of local environment possibly leading to long term commercial effects.

Option 2: Reduce/limit pressures.

- There were mixed responses to the effects of option 2. For example, one respondent stated it would have direct benefits to both the environment and the fishing industry. Another stated it would lead to displacement of fishing effort whilst one respondent suggested it would have a reduced impact on the UK's targets for climate mitigation and biodiversity conservation.

Option 3: Remove/avoid pressures (whole site prohibition).

- Some respondents stated that option 3 would have positive impacts, including reasoning such as:

    - Increased spillover of fish.

    - Regeneration of ephemeral habitat (e.g. *Sabillaria spinulosa*) without abrasion.

    - Restoration of benthic communities, particularly in more stable 'troughs' between sandbanks where shell gravel and some cobbles aggregate. This

could allow recruitment of many species of bivalve and subsequently other epifauna that will provide three dimensional complexity.

    - Increased essential fish habitat.

    - Opportunities for bivalve and seaweed farming within windfarms without issues of sedimentation released from passing trawls, or static gear infrastructure being damaged.

    - An increase in the carbon sequestration and storage capacity of the site which will benefit the UK's contribution to lowering carbon dioxide emissions.

    - Would fulfil requirements of the Marine and Coastal Access Act, Marine Strategy Regulations and other national and international laws.

    - Would enable conservation and recovery of the site, allowing all animals to have a safe haven to breed and keep them safe from fishing.

- Two respondents provided negative responses to option 3, stating that it would displace fishing effort and also that option 3 is likely not required.

- A respondent commented on the approach to management in this MPA and stated that for straddling sites such as this where two different authorities are managing two different parts of the site, management must be well co-ordinated and coherent.

4.2.5 What proportion and/or which parts of the site should be subject to a prohibition of demersal trawls, demersal seines, dredges, traps and anchored nets/lines?

- With the exception of one respondent, all believed that all of the site should be subject to a prohibition of fishing gear. The other respondent stated that all areas with coral or sponges should be closed to fishing gear.

- Most respondents suggested that bottom towed gear should be prohibited across the site, although some respondents suggested a complete prohibition for all gears across the site.

- A respondent cited the Benyon Review (2019) and the Lamlash Bay No Take Zone case study (pg. 17 - 18) where research has shown "that the numbers of some species have increased by nearly 400% since this zone was established. It states that since protection has been in place, biodiversity has increased

substantially, along with the size, age and density of species such as the king scallop and the European lobster"[1].

- Another respondent suggested a slightly different management approach: all of the site should see a prohibition of demersal towed gear and a cap on effort of static gear. Ideally, such static gear should be phased out by reducing effort between 2021 and 2030, leading to the site being a highly protected marine area. The respondent includes a caveat to this that the site won't be fully protected, as recreational angling could be permitted (with strict limits), and windfarms have also modified the seabed, and to a certain extent, the distribution of seabed sediments.

- A respondent stated that restricting fishing by area and not effort would achieve the desired effects. Effort restrictions typically cause problems in a fishery and catch controls are much more effective, but require 100% monitoring.

5. MMO response to site specific consultation responses

MMO would like to thank everyone who responded to the call for evidence. We have reviewed all responses and have taken these into consideration in updating the assessment.

Based on the updated assessment, the MMO has concluded that option 2 (Reduce/limit pressures) is the preferred option. Specifically, we will introduce a byelaw to prohibit the use of bottom towed gear over the sandbank and reef features of the SAC, and the use of static gear fishing over the reef features.

This section sets out how new evidence received has been incorporated into the assessment and our response to comments received.

The MMO received a detailed representation from the Eastern Inshore Fisheries and Conservation Authority (IFCA) suggesting a number of amendments to the fisheries assessment based on their knowledge of the local fleet. The amendments have been incorporated into the assessment; including additional local fleet knowledge which has allowed the MMO to adjust gear sizes and this is reflected in updated Pr-values, amendments to the fleet information and detail.

The Eastern IFCA also highlighted VMS data which suggested increased Danish seining activity across the site in 2015 only, during the construction of the Race Bank Wind farm. Further investigation has shown that this activity follows the export cable and array of the Race Bank wind farm and no landings are associated with the

[1] https://www.gov.uk/government/publications/highly-protected-marine-areas-hpmas-review-2019/benyon-review-into-highly-protected-marine-areas-final-report-executive-summary

vessels responsible for these VMS reports. These vessels are therefore believed to be operating as guardship vessels and not fishing.

The remaining comments have been categorised into themes and addressed. The main themes focus on:

- mussel prospecting and scallop dredging comparison;
- reef feature extent and sensitivity;
- data analyses;
- management of sandbank by sub-feature;
- assessment format;
- offshore windfarms;
- heritage implications;
- partial site closures and management measures; and
- displacement.

5.1 Mussel prospecting and scallop dredging comparison

Respondent comment: Sublittoral mussel is an important resource for local inshore fisheries but has not been found in the inshore (0 – 6 nm) section of the site for several years. We consider that mussel dredging should not be prohibited over large areas of the SAC but that opportunities to target mussel seed resource should be considered on a case by case basis. Given the time-critical nature of fishing mussel seed, we suggest that consideration be given to agreeing a protocol for mussel fishing in the SAC that can be used to guide decision-making in quick time, as and when mussel seed is located. Mussel seed used to be fished fairly frequently off the Skegness coast but has not been found since the construction of the Lynn, Inner Dowsing and Lincs wind farms in that area (most likely because fishermen have not been able to prospect in the area because of spatial restrictions related to wind farm construction and cable works), we therefore believe the scale of this activity is zero and does not require management.

Because of the differences in size and form between mussel dredges and scallop dredges, these two gear types should not be automatically managed in the same way or consider they can be assessed in a single category of “dredging”. Mussel fishing is carried out using a small bladed dredge – typically 1m across. Mussels are found proud of the seabed surface and are skimmed off the “mussel mud” they lie upon, meaning there is little contact with the seabed. Scallop dredging uses sets of heavy toothed dredges, typically 6 or 8 each side of the vessel, which penetrate the seabed disturbing epifauna and infauna.

We consider it is not appropriate to totally exclude mussel dredging from sandbanks in the MMO portion of the SAC. We suggest that this fishery should be authorised on a case by case basis with bespoke assessment of impacts on SAC integrity.

MMO response: We acknowledge the importance of the mussel seed fishery in this area. Whilst there can be a substantial difference in the size of a mussel dredge compared to other forms of dredging, the impact a mussel dredge exerts on a sandbank of a mussel dredges is, although reduced in footprint, still the same pressure. We have amended the gear sizes in our data analysis for Pr values to reflect a smaller dredge but the potential for this activity to result in an adverse effect on the integrity could not be excluded.

5.2 Reef feature extent and sensitivity

Respondent comment: Has MMO scrutinised evidence underpinning the reef feature extent advice? We apply a high degree of scrutiny to MPA feature extent advice, particularly for *Sabellaria* reef, before developing management measures, as in our experience (our knowledge of the site through our own survey work or through interactions with local stakeholders) the advised feature extent does not always match with our understanding. We work closely with Natural England throughout and in some cases our scrutiny has resulted in the feature extent advice being changed.

MMO response: The MMO is using the most recent feature data provided by Natural England to define the area to be managed as reef. This is based on a "core reef approach"[2] where areas to be managed as reef are those where reef has been present at a certain frequency over a series of surveys. This approach allows the MMO to protect areas which consistently support reef formation.

Respondent comment: *S. spinulosa* reef in the site is subtidal, whereas the *S. alveolata* experiments were intertidal. Has the effect of hydrodynamic drag (reducing the force of impact) been taken into account when comparing Cunningham's work with impacts on *S. spinulosa* reef?

MMO response: Additional evidence has been provided to show that *S. spinulosa* reef is more sensitive than *S. alveolata* especially whilst on unstable sediments such as in the Inner Dowsing, Race Bank and North Ridge SAC. No additional evidence was found on the specific impact of hydrodynamic drag on gear feature interactions.

5.3 Data analyses

Two respondents suggested amendments to the sizes of the gear types used to analyse impacts, specifically the size of trawls used in the area. This information has been reviewed and the trawling gear information has been updated to reflect the predominant use of shrimp trawlers with beams of up to 9 meters, rather than 12 meter beams, the size of the shoe has remained at 720 mm shoe width. This

[2] http://publications.naturalengland.org.uk/publication/5970080978960384

information has been used to recalculate Pr-values for those gear types and are available in the updated assessment.

Respondent comment: It would be helpful to see some translation of the number of pings into a number of trips, to help quantify the level of interaction between fishing gear and seabed. It is difficult to distinguish between the different colours showing different gear types, even when zoomed in. The lack of data for under 12 metre vessels highlights the need for VMS on all commercial fishing vessels, to help regulators understand the level and location of fishing effort and ensure management is appropriate and proportionate. Although we understand the MMO portion of the site to be important potting ground, we do not think the VMS data shows this. This is because VMS only shows data for vessels over 12 m and the majority of the local potting vessels are under 12 m.

MMO response: The MMO uses a variety of analytical methods to determine the level of interaction of different gear types with the seabed. Whilst we do not use trip data, we analyse VMS reports ("pings") which occur at fishing speeds which give us a realistic picture of the fishing activity undertaken by vessels with VMS, allowing us to determine the pressure of these gears and these vessels on the seabed. Therefore, we do not believe that analysing the activity by trips would allow for a more detailed picture in terms of activity pressure. We agree that the lack of VMS on under 12 metre vessels means that full extent of the fishing activity is not captured through VMS data, and so we use a variety of evidence including local knowledge, MMO catch app data and FisherMap in order to give a fuller picture of the activities of the whole fleet. We would welcome additional information about under 12 m vessel activity in the area to improve our evidence base and allow us to build a better picture of activity within the site.

Respondent comment: We are not aware of a high amount of netting in this area. We suggest it is more likely to be potting, based on our understanding of fishing activity in and around the area, although we do not have data to support this suggestion.

MMO response: The VMS data shows high numbers of netting activity in 2014 and 2015, with a gradual reduction in recent years. However, no landings have been associated with VMS reports apart from pots for UK vessels.

Respondent comment: While the data collected under the Regional Seabed Monitoring Programme (RSMP), and the subsequent regional monitoring surveys that will be repeated by industry every five years, are primarily to deliver the compliance requirements for marine licences, this methodology clearly has the potential to deliver other value-added outcomes in support of both the wider MPA network and determining the wider environmental status of regional seas.

MMO response: The Inner Dowsing, Race Bank and North Ridge SAC assessment uses the best available evidence, including updated 2018 ecological data from Natural England and JNCC. Longer term monitoring of both activities and environmental status of the site is important to understand the effectiveness of the proposed byelaw, and where appropriate long-term data sets such as the Regional Seabed Monitoring Programme will be used to support this.

5.4 Management of sandbank by sub-feature;

Respondent comment: We suggest the evidence from Natural England and JNCC which states that the three sandbank sub-features vary in terms of relative sensitivity, supports management at sub-feature level rather than the sandbank feature. We would also highlight that sub-features themselves can vary in terms of relative sensitivity, depending on local environmental conditions. Given the low levels of demersal trawling and the varying sensitivities of sandbank sub-features to pressures from trawling, we suggest adverse effects could be ruled out in some sandbank areas. We feel it is appropriate for MMO to explore the option of spatial management at the sub-feature level and to explore the option of effort management rather than closures to particular gear types. We understand that these options require more resource than more straightforward closures over large feature areas, but we feel the resource is justified because of the need to balance conservation duties with supporting viable inshore fisheries. 96% of the inshore waters off Lincolnshire, Norfolk and Suffolk have an MPA designation and the southern North Sea is hugely important for offshore wind and aggregate dredging, meaning inshore fisheries in this area are more and more constrained spatially. It is therefore important to consider how fisheries management within MPAs to ensure site integrity can be designed to meet conservation needs but minimise restrictions on fisheries.

MMO response: Although the sub-features of the sandbank feature vary in terms of their relative sensitivity and resilience, this does not mean that fishing over any of the sub-features will not result in an adverse effect on site integrity.

The MMO assessment concluded that an adverse effect on site integrity could not be excluded for bottom towed fishing over even the least sensitive sub-feature. In part this is because while the communities may be considered less sensitive at sub-feature level, they contain more sensitive components, for example long lived epifauna or bivalves, which are likely to be impacted by bottom towed fishing.

In addition the sandbank feature has been assessed by Natural England as being in unfavourable condition. The conservation objective therefore requires that the sandbanks are recovered to favourable condition, and any activity which compromises the ability to the sandbanks to recover cannot take place without undermining the site’s conservation objectives.

5.5 Assessment format

Respondent comment: While appreciating the assessment being undertaken is addressing fishing impacts, the use of the generic term “dredging” in the draft assessment has the potential to be misinterpreted by third parties to include marine aggregate extraction. For this reason, it would be helpful if the description used in the assessment could be more specific – “scallop dredging” for example.

MMO response: MMO recognises that the term dredging has other meanings. However, as noted this is a fisheries assessment, and to maximise clarity shortened terminology has been used to increase readability. The term dredging in the assessment covers a variety of dredging activity such as mussel prospecting and scallop dredging. The fisheries assessments clearly state that the effect of other relevant (non-fishing) activities are considered in Part C of the assessment. We therefore consider that use of the term dredging in the assessment to refer to a form of fishing is unlikely to be misinterpreted.

Respondent comment: We highlight that this is very much a qualitative assessment rather than a quantitative assessment (section 4.2 - 4.5). Where possible, quantitative information must be used to assess impacts e.g. extent of habitat disturbed or damaged. It would be useful to collate quantitative information in a table.

MMO response: Quantitative values for fishing activity are provided in Part B of the assessment, particularly in section 4.1 of this assessment, where fishing activity data is collated in tables. This section of the assessment also includes Pr-values, which are used as a method to quantify fishing pressure within an area of interest. Pr-values quantify the level of pressure for a single average day of effort for a reference vessel or fisher (land-based) within a fleet, taking into account the gear used. This method is used to inform the level of impact that is acceptable for maintaining integrity of the site or feature and to help define the spatial extent of the fisheries activities.

Quantitative information is also used where possible elsewhere in the assessment including in other sections of Part B, such as section 4.3 (removal of target species). For example, section 4.3.1.1 presents the estimated landings values from traps and then uses these values as a basis for assessing the impacts of traps on the sandbank feature via the removal of target species.

The MMO use quantitative data to inform their assessments where possible, alongside scientific advice from the SNCBs, to assess the impacts of fishing against the conservation objectives. Quantifying the effects of fishing pressures on the conservation objectives of an MPA is, however not always possible, and so qualitative information is also used throughout the assessment.

Respondent comment: There has been no consideration in the in-combination assessment of the unfavourable condition of the SAC. Depending on the type of management for fisheries which are assessed to cause an adverse effect, the in-combination effect with other activities may impede site recover, and therefore the conservation objectives for the SAC would not be met.

MMO response: As in 2019 when the condition was reassessed for this site, the features of the Inner Dowsing, Race Bank and North Ridge SAC were found to be in unfavourable condition. The site's conservation objective is to 'maintain or restore' the qualifying features to achieve favourable condition. Given the features are in unfavourable condition, the 'restore' objective is relevant here.

Part C of the MMO MPA fisheries assessments investigates the effects of fishing activities in-combination with other relevant activities against these conservation objectives.

5.6 Offshore wind farms

Two respondents raised the issue that cable maintenance and repair activities are becoming more common place. The presence of offshore windfarms in the area may be contributing to the unfavourable condition of this SAC is the presence of infrastructure associated with Race Bank Offshore Wind Farm. It is assumed that any further repairs and/or cable burial works associated with cabling within the site will contribute to further decline of the site.

MMO response: The MMO fisheries assessment concluded that it is unlikely that operation and maintenance of existing submarine cables will have a significant in combination impact with fishing and other activities via the pressures of abrasion and penetration. Such conclusions take into account that the frequency of maintenance to existing cables will be low, and that both decommissioning, burial, protection and maintenance of submarine cables as well as maintenance of offshore windfarms are licensable activities and are therefore subject to detailed assessments of their impacts, taking the impacts of fishing activity into account.

5.7 Heritage features

Respondent comment: A reduction in the potential impacts of gears that directly impact the seabed could also cause an inadvertent reduction on the discovery of known or presently unknown archaeological materials. It is possible that the reporting of impacts or accidental recovery of new archaeological discoveries could diminish. Further detail about the interaction between the historic environment and commercial fishing was also provided (Firth *et al.,* 2013, Russel and Stevens 2014).

MMO response: The MMO has duties under the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and

Species Regulations 2017 to protect European Marine Sites The MMO fisheries assessment of the impact of fishing in the Inner Dowsing, Race Bank and North Ridge SAC determined that bottom towed fishing and static fishing gears are not compatible with the conservation objectives of the site. The proposed management measures are therefore required, even where this may result in fewer archaeological discoveries.

5.8 Partial site closures and management measures

Respondent comment: Our understanding is that the activities (gill netting and Danish seining) rarely take place in the site, so management must be proportionate. Management option 3 would not be appropriate, and we suggest effort caps might be more proportionate that spatial closures to certain gear types (except for red risk interactions where spatial closures are appropriate), given low sensitivities of features and low levels of activity.

MMO response: Whilst the levels of activity analysed between 2014 and 2019 show low levels of several of these activities, the MMO assessment concluded that the features of the site (reef and sandbank) are sensitive to the impacts of bottom towed gears, including demersal seines and (for reef) static fishing gears, including gill nets. As a substantial proportion of the fishing at this site takes place from vessels under 12 m which therefore do not report their location using VMS, it is not possible to rule out, with a degree of high confidence, these activities taking place. Furthermore, prohibiting the use of other bottom towed fishing gears and static gears without prohibiting these gears may cause an increase in the use of these gears in this area. The proposed management therefore includes these gears in the prohibition of other gears with similar impacts is appropriate.

Respondent comment: We consider management option 2 (zoned management) is appropriate to provide protection to sandbank and reef features in the site. However, we suggest any such measures should be supported by clear evidence of reef extent (through analysis of the data underpinning feature extent advice). We also suggest consideration be given to zoning management within sandbanks to provide protection to their sensitive sub-features (e.g. subtidal mixed sediment) but not restrict fishing over the less sensitive sub-features (e.g. subtidal sand). Eastern IFCA takes these approaches (scrutiny of feature extent evidence and management at sub-feature level) to assessment and management of fisheries in inshore Marine Protected Areas and although it is time consuming, we believe this approach enables us to achieve the best possible balance between fisheries and conservation needs.

MMO response: The MMO also concluded that a zoned approach is an appropriate management option for the site. The effects of fishing on the benthic ecology of sandbanks may vary with sediment type (Rijnsdorp, *et al.,* 2018). However, studies

on how the impacts of bottom towed fishing vary with habitat type can, at times, provide conflicting results (Hiddink *et al.,* 2017, Stewart, and Howarth, 2016). Furthermore, delineating variation in sensitivity at sub-feature level (which are classified by sediment type) does not consider species-specific sensitivities (Hiddink *et al*., 2006). While some information is available detailing how bottom towed fishing impacts may vary, it has not been possible to identify an intensity and extent of fishing that would not compromise the recovery of the sandbank feature to favourable condition, even in more resilient habitats (Russell and Stevens 2014).

Respondent comment: Within management option 2, we suggest MMO should explore whether a cap on fishing effort rather than spatial closures would be acceptable to protect sandbank features (or sub-features). This would require an assessment of the ability of the site to withstand different levels of activity, based on feature (or sub-feature) sensitivity and recoverability, and fishing intensity. The assessment illustrates that most types of fishing activity occurring within the SAC do so at low levels, so we consider effort management might be a more appropriate response than spatial closures to particular fishing gear types (except for red risk interactions where spatial closures are necessary).

MMO response: The effects of fishing pressures can vary with several factors, including habitat type (Rijnsdorp *et al*., 2018). For example, due to containing large proportions of long-lived sessile epifauna, communities in gravel habitats may be more sensitive to bottom towed fishing (Rijnsdorp *et al*., 2018). Delineating variation in habitat sensitivity or recoverability (for example by sediment type) does not, however, consider species-specific sensitivities, for example fragile species will be more vulnerable (Hiddink *et al*., 2006). Studies on how the impacts of fishing impacts vary with habitat type can, at times, also provide conflicting results (Hiddink *et al*., 2017; Stewart and Howarth, 2016). While some information is available detailing how bottom towed fishing impacts vary, the intensity and extent of fishing that is sustainable, even in more resilient habitats, remains unclear (Stewart and Howarth, 2016). Given the precautionary principle and that the conservation objectives of the site are to ‘restore’ the sandbank and reef features to favourable condition, the MMO cannot rule out that, even at low levels, the activities identified (bottom towed fishing gear over sandbank and reef, and the use of static fishing gear over reef) may not be compatible with the site’s conservation objectives.

5.9 Displacement

Respondent comment: an assessment must consider the potential consequences of any displacement effects that may result from any additional management measures imposed - where displaced fisheries activities get concentrated into other areas, not only increasing the pressures on both environmental quality and resources but also on other marine users. In the same way that marine developments have to undertake cumulative impact assessments, there should be a

requirement to consider the wider environmental and socio-economic implications of any additional management measures before they are introduced.

MMO response: Fisheries assessments use the best available evidence to fully consider all impacts against the conservation objectives. If the assessment cannot conclude that use of certain fishing gear types is compatible with the site's conservation objectives, appropriate management measures will be introduced.

Although the prohibition of bottom towed fishing gear over the sandbank and reef features, as well as the use of static fishing gear over reef feature, could lead to displacement of fishing activities to habitats elsewhere, it is not possible to accurately predict the location (and thus the associated environmental costs) of displaced fishing activity. In addition, the potential impact of displacement to areas outside of the MPA, or between the areas of feature within the MPA, does not remove the requirement to introduce management to protect those features.

MMO closely monitors fishing activity in every MPA for which we are the lead regulator, and by regularly reviewing and updating our fishery assessments to reflect any such changes, including displacement of fishing activity, that have been observed.

5.10 Favourable condition targets

Respondent comment: In relation to the attribute - structure and function: presence and abundance of key structural and influential species: The targets or structural / influential species are not currently defined in the SNCB advice for identified pressures for sandbanks and reef. It is therefore unclear how the MMO has undertaken its assessment against this attribute.

MMO response: The tables identified for sandbank and reef have been updated to conclude that the MMO will not assess the attribute, with a justification of: Key species not identified therefore cannot be assessed.

Respondent comment: Since the Natural England advice has not identified influential and functional species for targets, it is not clear how the assessment has defined what species or biological communities are relevant to this assessment. Nor, other than with reference to *Flustra foliacea*, has it considered the level of exposure to seines, sensitivity or mortality rates and recoverability of the species that it has listed. *Flustra foliacea* is only associated with sub-tidal mixed sediments that occupy only parts of the feature.

Taking the most sensitive of the sub habitats, sub-tidal mixed sediments, the Natural England supplementary advice identifies the top of the banks as having predominantly low diversity communities, typical of disturbed mobile sediment

environments (Marlin[3] sensitivity tables included here). Natural England advice identifies that higher diversity can occur where cobbles/pebbles provide firmer attachment surfaces and also along the flanks. Natural England advice that towards the troughs between the banks where the sediments tend to be more stable, epifaunal communities are more diverse. Given the above, it is not clear how a conclusion may be drawn that any level of seining is not compatible with targets for non-target species for all parts of the feature. Reference is made to MBIEG (2020). It has not been possible to review this reference or associated excel tables in time in order to inform this response.

MMO response: Noting that Natural England have not identified 'influential and functional species' for this site, the assessment has been updated to remove consideration of activities against this attribute. The pressure 'removal of non-target species' is described by Natural England as: by-catch associated with all fishing, harvesting and extraction activities. Ecological consequences include food web dependencies, population dynamics of fish, marine mammals, turtles and sea birds (including survival threats in extreme cases). The physical effects of fishing gear on sea bed communities are addressed by the "abrasion" pressure type so the pressure addresses the direct removal of individuals associated with fishing/ harvesting.

The MMO has considered species associated with all sub-features of the site that may be impacted by bottom towed gear, not just the most sensitive subtidal mixed sediments feature. The crests and flanks of the sandbanks are characterised by polychaete worms (e.g. *Nephtys* spp*.)*, mobile amphipods (e.g. *Bathypoeia* spp*.)* and large bivalves (e.g. *Abra alba).* Subtidal coarse sediment support epifauna such as barnacles and ascidians as well as infaunal polychaetes, including, *Spiophanes sp.*. Subtidal sand communities include tube building amphipods such as *Bathyporeia spp.* and the bristleworm *Ophelia borealis*, and some large bivalves such as *Abra prismatica*. Trawls, seines and dredge fishing activities may remove these species as by-catch (non-target species) (Hinz *et al.,* 2012, Kaiser *et al.,* 2006). Removal of non-target species is therefore relevant to the whole subtidal sand feature.

The Marlin advice highlighted by the respondent states that resistance is low for all relevant biotopes apart from A5.134 (*Hesionura elongata* and *Microphthalmus similis* with other interstitial polychaetes in infralittoral mobile coarse sand), where it is medium, and A5.611 (*Sabellaria spinulosa)* where it is 'none'. Resilience for all relevant biotopes is either high or medium and overall sensitivity is either low or medium. As described in the assessment the activity levels of trawling, dredging and seines are relatively low within the site. However, removal of non-target species from the sandbank feature is likely to compromise the stated attribute target to 'restore the presence and spatial distribution of subtidal sandbank communities'.

[3] https://www.marlin.ac.uk/

Natural England's feature condition assessments for sub-features of the sandbank indicated the presence and spatial distribution of biological communities to be unfavourable for all sub-features. Fishing using bottom towed gear, even at low levels, could impact this attribute and therefore cause adverse effects on site integrity. Further, management measures would also protect the designated feature against potential increases in activity levels.

5.11 Impact of demersal trawls via abrasion/penetration on sandbank

Respondent comment: No evidence is provided that a precautionary approach is necessary at present levels of fishing pressure. As noted above the relevant species have not been identified in the advice. SNCB advice has not taken account of the footprint analysis undertaken for this assessment and therefore the onus should be on SNCBs to consider whether or not the conservation objective for the feature has been set appropriately in relation to relevant attributes.

MMO response: Application of the precautionary principle is a legal requirement when assessing and managing activities under the Habitats Directive. Natural England has set attribute targets for the sandbank feature including:

- Restore the presence and spatial distribution of subtidal sandbank communities.

Demersal trawling, even at low levels, could compromise this attribute targets and therefore result in an adverse effect on site integrity. In the absence of evidence that these activities can continue without such impacts, management measures are being proposed to ensure that fishing does not undermine the conservation objectives of the site.

5.12 Impact of dredges

Respondent comment: The assessment notes very low level of dredging activity, but concludes pressures are not compatible with the conservation objectives. It would appear that the MMO concludes that no level of interaction is compatible with sandbank feature and therefore this raises the question whether the MMO considers that dredges are the equivalent of a red risk as defined in Defra's revised approach whatever habitat they occur on. Clarity on this matter would be welcome. Comments on demersal trawls above and relationship with SNCB advice and the recover objective also apply to dredges.

MMO response: The sandbank feature has attribute targets related to the structure and distribution of communities including:

- Restore the presence and spatial distribution of subtidal sandbank communities.

Dredging and trawling, even at low levels, could impact this attribute target and therefore result in an adverse effect on site integrity. Natural England's feature condition assessments for sub-features of the sandbank indicated the presence and spatial distribution of biological communities to be unfavourable for all sub-features. Epifaunal species such as barnacles, ascidians, mobile amphipods and bivalves, as well as infaunal polychaetes, are found on/in the sandbank feature of the site. Dredges have been shown to impact non-target species such as these either through abrasion or bycatch (Hinz *et al.,* 2012, Kaiser *et al.,* 2006). Management measures would also protect the designated feature against potential increases in activity levels.

With regards to the revised approach and whether MMO considers dredges to be the equivalent of a red risk, the MMO uses the Fisheries in European marine sites matrix[4] to guide us on the level of evidence for a particular interaction. However, the MMO still conducts assessments on a site by site basis, and due to the reasoning provided above, has concluded that even at low levels dredging and trawling is considered to be capable of having an adverse effect on site integrity.

5.13 Impact of traps and anchored nets/lines by abrasion/penetration on *Sabellaria spinulosa* reef

Respondent comment: There is a practical maximum density of gear for fishing to operate effectively, which in turn can inform the level of interaction that is theoretically possible with a conservation feature. Our own calculations for potting suggested that the maximum rate for pot interactions in the most densely fished areas that we know of are in the order of 1 in 30 years.

The assessment does not consider the extent of exposure possible from static gears in the assessment. Again, the conclusion appears to infer that the MMO considers that no level of exposure is compatible with this feature contrasting with the amber classification provided in Defra's revised approach. Clarity on that matter would be welcome.

MMO response: The reef feature of the site has several 'recover' targets related to the structure and distribution such as:

- Restore the presence and spatial distribution of reef communities.
- Restore the total extent, spatial distribution and types of reef (and each of its sub features).
- Restore the species composition of component communities.

Sabellaria spinulosa reefs have been described to be impacted by potting in numerous papers (Jones, 1999, Reisen and Reise, 1982). Research also suggests

[4] https://www.gov.uk/government/publications/fisheries-in-european-marine-sites-matrix

Sabellaria spinulosa is more fragile than *Sabellaria alveolata* and so surface abrasion may lead to greater damage and lower recovery rates (Gibb *et al.,* 2014). Furthermore, there are no direct observations of reef recovery, through repair, from abrasion for *Sabellaria spinulosa* reefs[4]*.* The dwelling tubes constructed by *Sabellaria spinulosa* are relatively fragile and therefore susceptible to damage from direct physical impacts (Benson *et al.,* 2013). If the individual worms themselves escape direct injury, they may still be left vulnerable to predation (Benson *et al.,* 2013). Such impacts can also break reefs down into smaller fractions, thus making them more vulnerable to further damage and changing the habitat for the associated fauna (Benson *et al.,* 2013).

The physical impacts of potting, even at low levels, could therefore impact the attributes above and cause an adverse effect on site integrity. The assessment of the site indicates that potting has occurred every year (between 2014 and 2019) in close proximity to the reef feature. However, given the length of a potting string and the uncertainty of the location of the string in accordance with the VMS location it is possible that pots are laid within the *Sabellaria spinulosa* reef area. Additionally, the activity of smaller vessels is not captured by VMS, and FisherMap and sightings data indicate potting by smaller vessels could take place over the reef. Further, the proposed management would also protect the reef against potential increases in activity levels and the combined effects of potting and other static gears.

With regards to the revised approach and whether MMO considers no level of exposure to be compatible with the feature (and therefore to be the equivalent of a red risk), the MMO uses the Fisheries in European marine sites matrix[4] to guide us in the level of evidence for a particular interaction. However, the MMO still conducts assessments on a site by site basis, and due to the reasoning provided above, has concluded that even at low levels potting activity on reef feature is considered to be not compatible with the conservation objectives of the site.

5.14 Site integrity, recoverability and control areas

Respondent comments: There is no control area to show what the ecosystem can and should be at such a scale for different features either in the absence of all fishing, or fishing of certain gears (resulting in poor/no scientific knowledge). These 'controls' should be in place for at least 20 years in order to allow the community to change based on the stochastic nature of recruitment and ecological succession.

MMO responses: Natural England and JNCC are responsible for assessing and advising on the condition of the features of the SAC. Their most recent evaluation is that the features of the site are currently in unfavourable condition.

Respondent comment: There is an assumption that 'recoverability' allows for the site to be impacted on a regular basis (based on the recoverability of the species on each habitat). However this assumption is flawed in that (1) it looks at isolated

species and habitats, not their interactions in time and space, and (2) neither their accumulated and in-combination impact on the function of the habitat, and (3) commercial fished species are overlooked. There is often an assumption that the site was at a status that was favourable when designated, and therefore, by inference that 'ongoing' activities aren't heavily modifying or damaging to the sites' conservation features. This therefore assumes that the base level of trawling, potting, cable laying, aggregate extraction is normal / reasonable. This is untenable under the terms of the Habitats Regulations that should discount reasonable doubt of a likelihood of ongoing deterioration of the site, and of favourable conservation status.

MMO response: The MMO fisheries assessment for this site does not rely on an assumptions set out above around recoverability or condition. Natural England and JNCC have advised that the features of the site are currently in unfavourable condition, and the MMO fisheries assessment has concluded that management measures are required to prohibit certain types of fishing across the site's sensitive features.

Respondent comment: There is limited understanding amongst Natural England, MMO and fishers about the true integrity of conservation features, and the structuring and modifying effects of fishing on these features. When considering the management of 'the feature' according to the Habitats Regulations, MMO must consider both maintaining the physical habitats, but more importantly the biodiversity that is typical of those habitats. Therefore, the fish and invertebrate populations that are of commercial interest to the fishery are also to be considered in the management of the site, because of their intrinsic natural value, and their structuring and functioning roles. However, their mortality from fishing is often disregarded in management. It is likely that highly mobile shallow sandbank tops - (where there is greatest wave action) can be fished with limited short and long term impact. But the deeper areas, troughs between banks, shell and gravel areas will potentially recover to host more biodiversity, particularly if left alone from trawling and dredging. Indeed, there is strong evidence from the historical literature (sometimes non-quantitative in basis) that the sites were able to host biogenic reef communities in these sorts of areas. The important paper from Braekman *et al*., (2014) 'Protecting the Commons...' illustrates some of the existing North Sea benthic species that will be affected by abrasion that are essential for bentho-pelagic coupling. Reduction of the numbers of these species will impact the functioning of the site, reduce biodiversity, and fundamentally reduce such species from the site.

MMO response: Natural England and JNCC, in their formal conservation advice package for this site, have set out a range of attribute targets for the features of the site, which if met will support those features to be in favourable condition and support the integrity of the site. The MMO assessment for this site uses the relevant

attribute targets to assess the impacts of fishing and identify any management required to ensure the site is adequately protected.

6. General consultation responses

The MMO received consultation responses which apply to the general assessment process which do not relate to specific MPAs. Therefore the MMO has summarised these consultation responses in the below section together with the MMO's response to the comments.

Respondent comment: It is not appropriate to discount fishing activities from the in-combination assessment where the assessment has concluded the activities will have an adverse effect on the site alone, and this is not the normal approach. This is due to the uncertainty around the management measures being put in place for fishing activities which are causing an adverse effect, the respondent has no confidence that management will be effective and therefore suggest these activities must also be included in the in-combination assessment.

MMO response: The MMO MPA fisheries assessments aim to identify adverse effects on designated features from fishing pressures and suggest appropriate management measures to ensure the site's conservation objectives are met, in accordance with scientific advice provided by JNCC and Natural England[5].

The assessment is completed in several parts: Part A provides a coarse sensitivity assessment to identify which fishing activities can be discounted from further assessment (Part B) as they are not taking place or are not a significant concern. Part B provides an in-depth analysis to assess the pressures of fishing activities relevant for the site. Part C considers the effects of activities in-combination with other relevant activities taking place. These can include:

- Fishing activity/pressure combinations which were excluded in Part A due to not having a significant effect on features alone, but could have an in-combination affect.

- Fishing interactions assessed in Part B but not resulting in a significant risk to the site's conservation objectives or an adverse effect on site integrity.

- Plans or projects such as marine development works requiring a marine licence.

Where activities have been identified in Part B to result in an adverse effect/significant risk alone, their consideration during Part C depends on the mitigation identified as a result of impacts identified in Part B.

[5] https://jncc.gov.uk/our-work/marine-activities-and-pressures-evidence/

Where an activity is identified in Part B as having an adverse effect/significant risk alone, and mitigation is introduced to reduce, but not entirely remove, this impacts, the residual impact will be considered in Part C to ensure all in-combination impacts are captured.

Where mitigation will be introduced to entirely remove a pathway for a pressure from the activity to affect the feature, this pressure from this activity will not be considered in Part C. For example, where the identified mitigation is a prohibition of use of a certain fishing gear types within the site, most or all of the pressures from this activity would be removed from the site and it is not therefore considered during the in-combination assessment.

The MMO assessment methodology is provided in Annex 1 of each assessment for full context.

Respondent comment: Any spatial management measure to reduce fishing pressure must also consider the potential displacement effects, and the wider impacts this could have on the benthic communities and mobile species associated with them.

MMO response: The MMO MPA assessments use the best available evidence to fully consider all impacts against the conservation objectives, as identified by scientific evidence. If the assessment concludes that use of certain fishing gear types are not compatible with the site's conservation objectives, management measures may be put in place which could cause displacement of this fishing to other areas. This potential impact of displacement to areas outside of the MPAs or management areas does not remove the requirement to ensure that fishing is managed to further the conservation objectives of the site. However, the MMO will have regard to displacement and monitor every MPA by undertaking annual reports of fishing activities and pressures within MPAs, and by regularly reviewing and updating the MPA assessments to reflect any such changes that have been observed. See section 8 of the MMO MPA fisheries assessment for further details on the MMO process on reviewing assessments.

Respondent comment: The outcome of this call for evidence and any subsequent consultations will fall far short of providing the proper protection needed for the most ecologically important parts of our seas. The respondent highlighted that bottom trawling took place in 71 offshore MPAs in 2019 and advocate a ban on all destructive fishing gears starting with bottom trawlers and supertrawlers, across the entire MPA network. The respondent suggests these bans are introduced from 1st January 2021, by removing licenses for supertrawlers and bottom trawlers to fish in MPAs, via powers in the Fisheries Act 2020.

The respondent also stated that the process lacks ambition, both in the number of MPAs included and the management options proposed. It is also unnecessarily slow

and cumbersome as a process for delivering the scale and extent of ambition required to protect our oceans.

MMO response: The purpose of the call for evidence was to gather additional evidence and stakeholder views on the draft MMO assessments and management options for fishing in four offshore MPAs: Dogger Bank SAC, Inner Dowsing, Race Bank and North Ridge SAC, South Dorset MCZ and The Canyons MCZ. The MMO assessments contain detailed assessments of the impacts of fishing in these sites and set out a range of management options. The outcomes of updated MMO assessments, taking into account evidence received and advice from Natural England and JNCC, have been used to develop ambitious and proportionate draft management measures which are now subject to public consultation.

Respondent comment: The fisheries assessments would benefit from a glossary of terms and consistent use of them throughout the documentation, and that an overarching assessment methodological conceptualisation would help communicate how the assessments are undertaken.

MMO response: The MMO MPA assessments aim to use clear accessible language and provide explanation where required for use of non-standard terminology. We recognise it would be valuable to provide some supporting information to aid interpretation of the assessments for wider audiences and so will seek to develop such a glossary for future assessments. Annex 1 of each of the MMO MPA assessments fully details the methodology and aims of the assessment and well as referencing the need for assessment in a manner consistent with section 126 of the Marine and Coastal Access Act. Evidence sources and SNCB advice packages are referenced in our assessments where appropriate.

Respondent comment: More explicit reference to SNCB advice within Part B would provide greater transparency on how the assessment is drawing its conclusions. The management objectives for mobile species was also identified as lacking clarity and purpose.

MMO response: Mobile species are not a designated feature of any of the sites assessed within this call for evidence. Natural England and JNCC conservation advice packages may include species (including mobile species) as a component part of a feature, and impacts on certain species may influence a target attribute for a site feature (feature target attributes are set out in Natural England or JNCC conservation advice packages). Where fishing impacts (for example the removal of target and non-target species) has the potential to impact a sites' conservation objectives we have used the best available evidence to assess this, in accordance with the pressures activities database published by JNCC and Natural England[5].

Respondent comment: The respondent provided advice on the spatial footprint analysis (Pr-values) methodology and suggested applying a rule of using vessel speeds of 1 - 6 knots, rather than 0 - 6 knots currently used.

MMO response: The Pr-values presented incorporate gear specific fishing speeds which are used to identify relevant vessel pings to be included within the values presented. Annex 2 in each of the MMO MPA assessments provides information regarding the speeds that have been included for each of the fishing gears included. It is acknowledged in the description, strengths and limitations of fishing activity data provided in the assessments, that this may overestimate, or in some cases, underestimate the true level of fishing activity.

7. Decisions and next steps

Having analysed all evidence and stakeholder views received during the call for evidence, and updated the MMO assessment of the impacts of fishing in the Inner Dowsing, Race Bank and North Ridge SAC, MMO has concluded that in order to further the conservation objectives of the site, bottom towed fishing gear will be prohibited in specified areas of reef and sandbank and static fishing gear will be prohibited in specified areas of reef.

The MMO is launching formal consultation on 1 February 2021 for eight weeks on a draft byelaw which prohibits bottom towed fishing gear in specified areas of reef and sandbank and prohibits static fishing gear in specified areas of reef. This will be accompanied by a regulatory triage assessment which examines the monetised and non-monetised costs and benefits of the draft byelaw, and an updated MMO fisheries assessment for Inner Dowsing, Race Bank and North Ridge SAC.

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