VATTENFALL

Norfolk Vanguard Offshore Wind Farm

HHW SAC Position Statement

Department for Business, Energy and Industrial Strategy (BEIS) Request for information

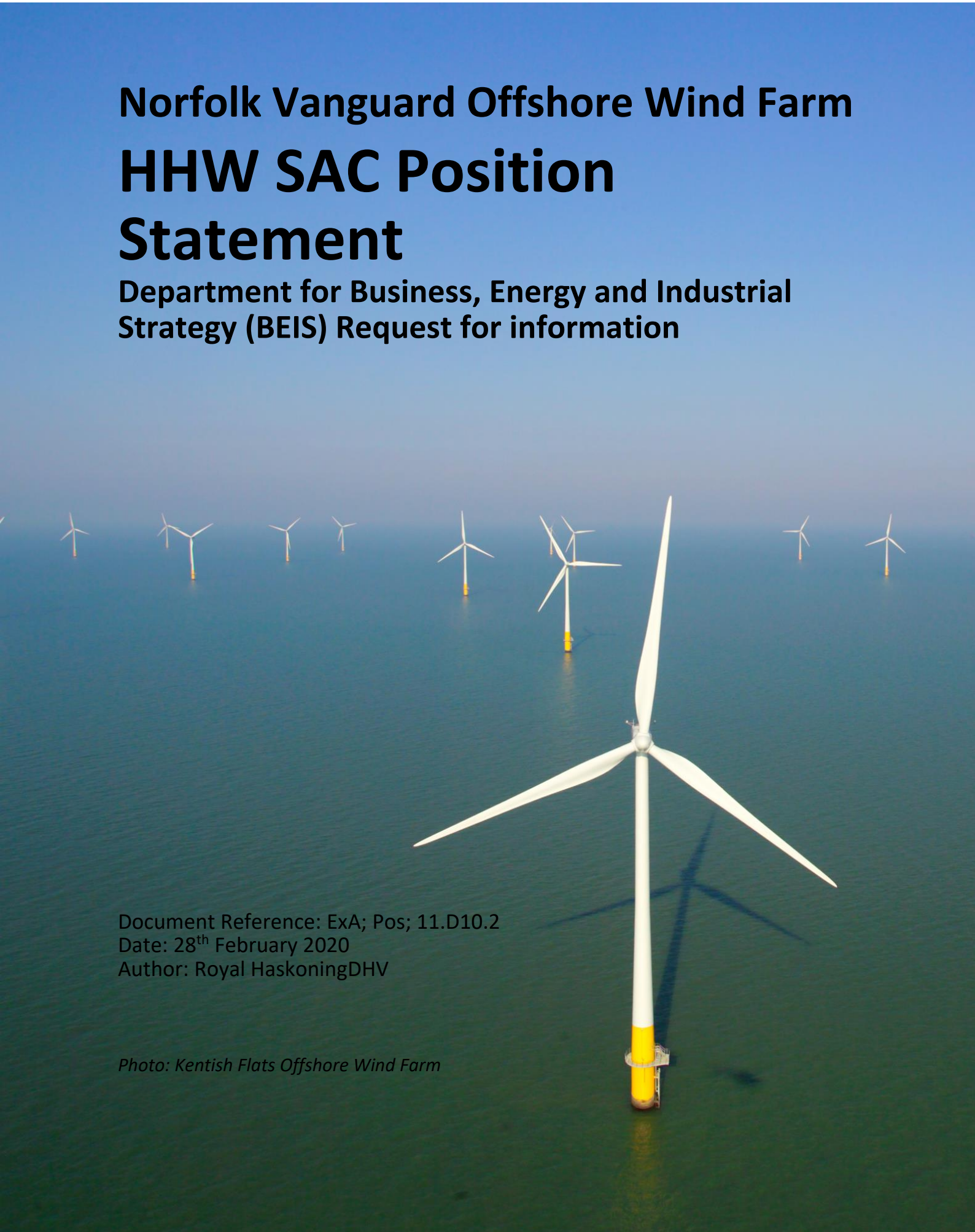

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Photo: Kentish Flats Offshore Wind Farm

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28/02/2020	01F	Final for submission on 28 February 2020	GK	VR	RS

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1 INTRODUCTION

1.1 Purpose of this document

1. This document provides the Applicant's position regarding the potential effects of Norfolk Vanguard on the Haisborough, Hammond and Winterton (HHW) Special Area of Conservation (SAC), particularly in light of the extensive commitments to mitigation made by the Applicant in the Development Consent Order (DCO) application and during the Norfolk Vanguard examination, combined with further specific mitigation (outlined in Section 1.3), proposed in response to a letter from the Department for Business, Energy and Industrial Strategy (BEIS) dated 6 December 2019:

   "The Applicant, in consultation with the Marine Management Organisation and Natural England as necessary, is invited to provide information on the specific mitigation solutions that would address the potential effects of cable protection on the SAC features.

   In the absence of any identifiable mitigation measures, the Applicant, in consultation with Natural England, may wish to consider the provision of evidence as to:

   - *whether there are any feasible alternative solutions to the Norfolk Vanguard project which could avoid or lessen any adverse effects on the integrity of these sites;*
   - *any imperative reasons of overriding public interest for the Norfolk Vanguard project to proceed; and*
   - *any in-principle compensatory measures proposed to ensure that the overall coherence of the network of Natura 2000 sites is protected."*

1.2 Consultation

2. Since receipt of the letter from BEIS, the Applicant has undertaken extensive consultation with NE and the MMO as detailed in the Consultation Overview (document reference ExA; Consult; 11.D10.3).

3. The consultation has included meetings and a number of submissions by the Applicant regarding additional specific mitigation proposed in the HHW SAC and in-principle compensation proposals.

4. Through this consultation, the Applicant is aware of the key concerns of Natural England and the MMO and would summarise these as follows:

   - The ability to manage the Grampian condition associated with the HHW SAC SIP during the post consent/ pre-construction phase.

- The effects of habitat loss associated with cable protection in the HHW SAC.
- The effects of cable installation in relation to whether *Sabellaria spinulosa* reef can be avoided and if not, evidence that *S. spinulosa* reef will recover.
- The effects of cable installation on Annex 1 Sandbanks.

5. The first and second points outlined above are included in the BEIS letter dated 6 December 2019.

6. The final points regarding cable installation were discussed during the Norfolk Vanguard Examination and were matters on which the Applicant submitted extensive evidence. However, and despite this not being an issue raised by BEIS, the Applicant provides its position on these matters in Sections 2.3 and 2.4.

1.3 Additional mitigation

7. Additional specific mitigation proposed by the Applicant is detailed in document reference ExA; Mit; 11.D10.2 ('Additional Mitigation').

8. In the HHW SAC this includes the following measures:

- No cable protection will be used in the top priority areas to be managed as reef within the HHW SAC, unless otherwise agreed with the MMO in consultation with NE (discussed further in Section 2.2.1.1); and
- Cable protection will be decommissioned at the end of the Norfolk Vanguard project life in areas where burial has not been possible due to ground conditions (Cable protection would need to be left in situ where required for cable crossings).

9. These further measures ensure there will be no Adverse Effect on the Integrity (AEoI) of the HHW SAC, including no hindrance of the restoration objective in the HHW SAC. This is discussed further in the Assessment of additional mitigation in HHW SAC (document reference ExA; Mit; 11.D10.2.App2) provided in Appendix 2 to the Additional mitigation document submitted on 28 February 2020.

1.4 Sabellaria spinulosa overview

10. *Sabellaria spinulosa* is a common, widely distributed and opportunistic species, well known to employ a typical 'R' life strategy making it a highly ephemeral species. *S. spinulosa* can form low lying biogenic reefs, and these tend to be patchy. The reefs can be formed, lost and reformed rapidly within the space of approximately 12 months (Gibb *et al* 2014). The reefs are considered biogenic reefs under the Habitats Directive Annex I definition of 'reef' but are not a priority marine habitat under the Habitats Directive.

11. At the time of site selection of the HHW SAC, *S. spinulosa* reefs were stated to be located in three locations (described in the reporting as Haisborough Tail, Haisborough Gat and between Winterton Ridge and Hewett Ridge) (JNCC & Natural England, 2010).

1.5 Areas to be managed as reef overview

12. The Applicant notes there may be a lack of clarity on what the "areas to be managed as reef" represent, with Natural England also referring to these as "high confidence" areas.

13. These areas have been mapped by Natural England on the basis of *S. spinulosa* reef having been recorded at some stage in the past and therefore these areas have been identified as having a habitat which is likely to have the potential to support *S. spinulosa* reef under the right conditions, i.e. "high confidence" that *S. spinulosa* reef could develop. It is important to note that *S. spinulosa* reef is not currently known to be extensively present throughout all of the areas mapped as "areas to be managed as reef".

14. The areas have been termed "areas to be managed as reef" in documentation from Natural England because they are areas that have been identified by Natural England, and further assessed by the Eastern Inshore Fisheries and Conservation Authority (EIFCA) with regards to managing the commercial fishing in these areas, with the aim of facilitating the recovery of *S. spinulosa* reef, recognising that these areas are likely to have a habitat suitable for supporting *S. spinulosa* reef.

15. During the Applicant's consultation with the EIFCA and Natural England – two key "areas to be managed as reef" have been discussed as priorities and these underpin the two fisheries management proposals; one by EIFCA and one by the Department of Food, Environment and Rural Affairs (DEFRA). Figure 1 on page 12 of Natural England's Deadline 6 submission (REP6-032) shows Natural England and JNCC's mapping of "areas to be managed as *S. spinulosa* reef" and circles are shown around the two areas which are being progressed for fisheries management measures as a priority (replicated in Figure 1.1 below).

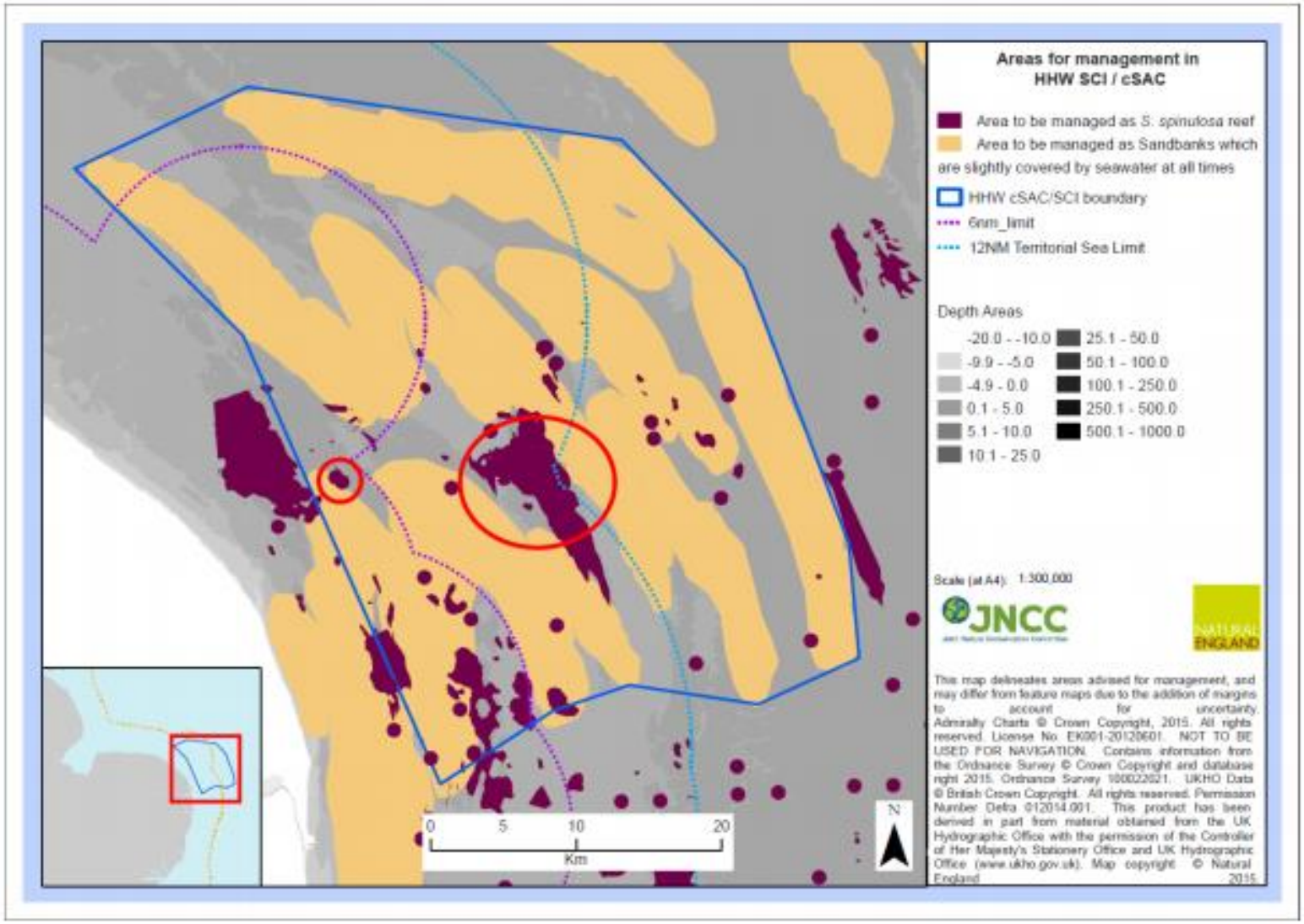

Figure 1.1 Natural England's Norfolk Vanguard Deadline 6 Submission – Figure 1 Proposed areas for management in Haisborough, Hammond and Winterton SAC. The smaller red circle closer inshore indicates an area of reef that the EIFCA intend to protect through a fisheries byelaw.

2 SUMMARY OF APPLICANT'S POSITION

2.1 HHW SAC SIP and the Grampian Condition

16. The use of the HHW SAC SIP to provide a framework to agree mitigation post consent was proposed by the Applicant during the Norfolk Vanguard Examination. This was intended to provide confidence that there would be no AEoI on the HHW SAC notwithstanding the ephemeral nature of *Sabellaria spinulosa* reef and notwithstanding NE's concern that, as a result of the proposed fisheries management measures, reef may recover within the HHW SAC in the intervening period between consenting and construction.

17. The MMO and NE have concerns with the Grampian condition associated with the SIP which requires the Applicant to demonstrate that there will be no AEoI on the HHW SAC post consent to the satisfaction of the MMO in consultation with Natural England prior to construction.

18. The Applicant is confident that a conclusion of no AEoI can be made pre-consent based on the evidence already submitted during the Examination, the evidence outlined in this document and the assessment presented in Appendix 2 of the Additional Mitigation document (document reference ExA; Mit; 11.D10.2.App2). As a result, the Applicant is proposing an alternative approach to securing the mitigation for cable installation and cable protection in the HHW SAC. This could instead be conditioned through a Cable Specification, Installation and Monitoring Plan (CSIMP) for the HHW SAC, to be submitted to the MMO (in consultation with NE) in advance of commencement of licensed activities.

19. The Applicant is therefore providing optionality to the Secretary of State on this matter, with either:

    a. the existing Grampian condition and HHW SAC Site Integrity Plan; or

    b. the alternative condition and HHW SAC CSIMP

20. Further detail on the options for this DCO condition (Schedules 11 and 12, Part 4, Condition 9(1)(m)) is provided in the Additional Mitigation document (document reference ExA; Mit; 11.D10.2).

21. The HHW SAC SIP (in accordance with the Outline HHW SAC SIP submitted on 28 February 2020) and the HHW SAC CSIMP (in accordance with the Outline HHW CSIMP submitted on 28 February 2020) contain the same mitigation commitments and are hereafter referred to as the 'HHW SAC control document 8.20'.

2.1.1 Conclusion regarding the HHW SAC SIP and Grampian condition

22. By providing an alternative plan and condition which does not include the Grampian component (i.e. the requirement that construction could not commence until the MMO is satisfied that the plan provides such mitigation as is necessary to avoid AEoI), the Applicant has sought to address the MMO and NE's concerns on this matter.

2.2 Habitat loss associated with cable protection

2.2.1 Additional specific mitigation

2.2.1.1 No cable protection in priority areas to be managed as reef

23. In response to the BEIS letter, the Applicant is proposing a new commitment to use no cable protection in the priority areas to be managed as reef within the HHW SAC, unless otherwise agreed with the MMO in consultation with NE.

24. As discussed in Section 1.5, the areas to be managed as reef (shown in Figure 2.1) have been identified by NE as areas where *Sabellaria spinulosa* reef has been recorded in the past and therefore may have potential to redevelop if pressures are removed. Two of the areas to be managed as reef have been identified as priority areas and these underpin proposed fisheries management measures that are being progressed by the EIFCA and DEFRA.

25. This commitment will ensure there is no habitat loss in the areas that have been identified by Natural England as having potential to support *S. spinulosa* reef. By committing to avoid cable protection in these priority areas, the Applicant is ensuring that there will be no habitat loss of potential *S. spinulosa* reef habitat and therefore no hindrance of the recovery target for Annex 1 Reef.

26. Any cable protection deployed outside the priority areas to be managed as reef would have no AEoI on the HHW SAC due to the small scale of loss, in accordance with the Natural England advice note regarding consideration of small scale habitat loss within Special Areas of Conservation (SACs) in relation to cable protection (submitted at Deadline 4 of the Norfolk Vanguard Examination). This is discussed further in Appendix 2 of the Additional Mitigation document (document reference ExA; Mit; 11.D10.2.App2).

27. To provide confidence that cable protection will not be required in the priority areas to be managed as reef, evidence is provided in Appendix 3 of the HHW SAC control

document (document 8.20)[1] submitted on 28 February 2020. Figure 2.1 below (also provided in Appendix 3 of document 8.20) shows the zones where cable protection could be required, demonstrating that these do not overlap with the areas to be managed as reef.

2.2.1.2 Decommissioning cable protection

28. Following a review of the supply chain, the Applicant is confident that cable protection will be able to be decommissioned at the end of the Norfolk Vanguard project life where it is associated with unburied cables due to ground conditions. Further detail on the methods for decommissioning is provided in Appendix 3 of the Additional Mitigation document (document reference ExA; Mit; 11.D10.2.App3).

29. This commitment is secured in the HHW SAC control document 8.20 and ensures that there will be no permanent habitat loss as a result of cable protection and further contributes to the ability to conclude no AEoI on the HHW SAC. This is discussed further in Appendix 2 of the Additional Mitigation document (document reference ExA; Mit; 11.D10.2.App2).

2.2.1.3 Removal of disused cables

30. Every effort is being made by the Applicant to reduce the number of crossings by removing disused cables where agreement can be reached with the cable owners. An Out of Service Cable Recovery Agreement has been discussed with BT Subsea who own a number of out of service assets within the HHW SAC. Appendix 4 of the Additional Mitigation document (reference ExA; Mit; 11.D10.2.App4) demonstrates the advanced stages of these discussions, with a formal agreement expected to be in place imminently.

31. While it is recognised that this does not represent mitigation at this stage, it is likely that this will reduced the number of crossings from six to two per cable and will therefore reduce the volume of cable protection associated with cable crossings.

2.2.2 Conclusion regarding cable protection

32. An assessment of the effects of cable protection, in light of the additional specific mitigation commitments is provided in Appendix 2 of the Additional Mitigation document (document reference ExA; Mit; 11.D10.2.App2).

33. Natural England has advised in their advice note regarding consideration of small scale habitat loss within SACs in relation to cable protection (submitted at Deadline

[1] Either a SIP or a CSIMP will be certified document 8.20 and both documents are provided in the 28 February 2020 submission. This is explained in the Additional Mitigation document (document reference ExA; Mit; 11.D10.2)

4, REP4-062) that it would consider there to be no likelihood of an AEoI where any one (or more) of the following can be demonstrated:

- That the loss is not on the priority habitat/feature/sub feature/supporting habitat, and/or
- That the loss is temporary and reversible, and/or
- That the scale of loss is so small as to be de minimis and/or
- That the scale of loss is inconsequential including other impacts on the site/feature/sub feature.

34. The Applicant considers that all of the above are met in the case of Norfolk Vanguard, particularly in light of the extensive mitigation commitments in the HHW SAC and therefore a conclusion of no AEoI on the HHW SAC as a result of cable protection can be drawn.

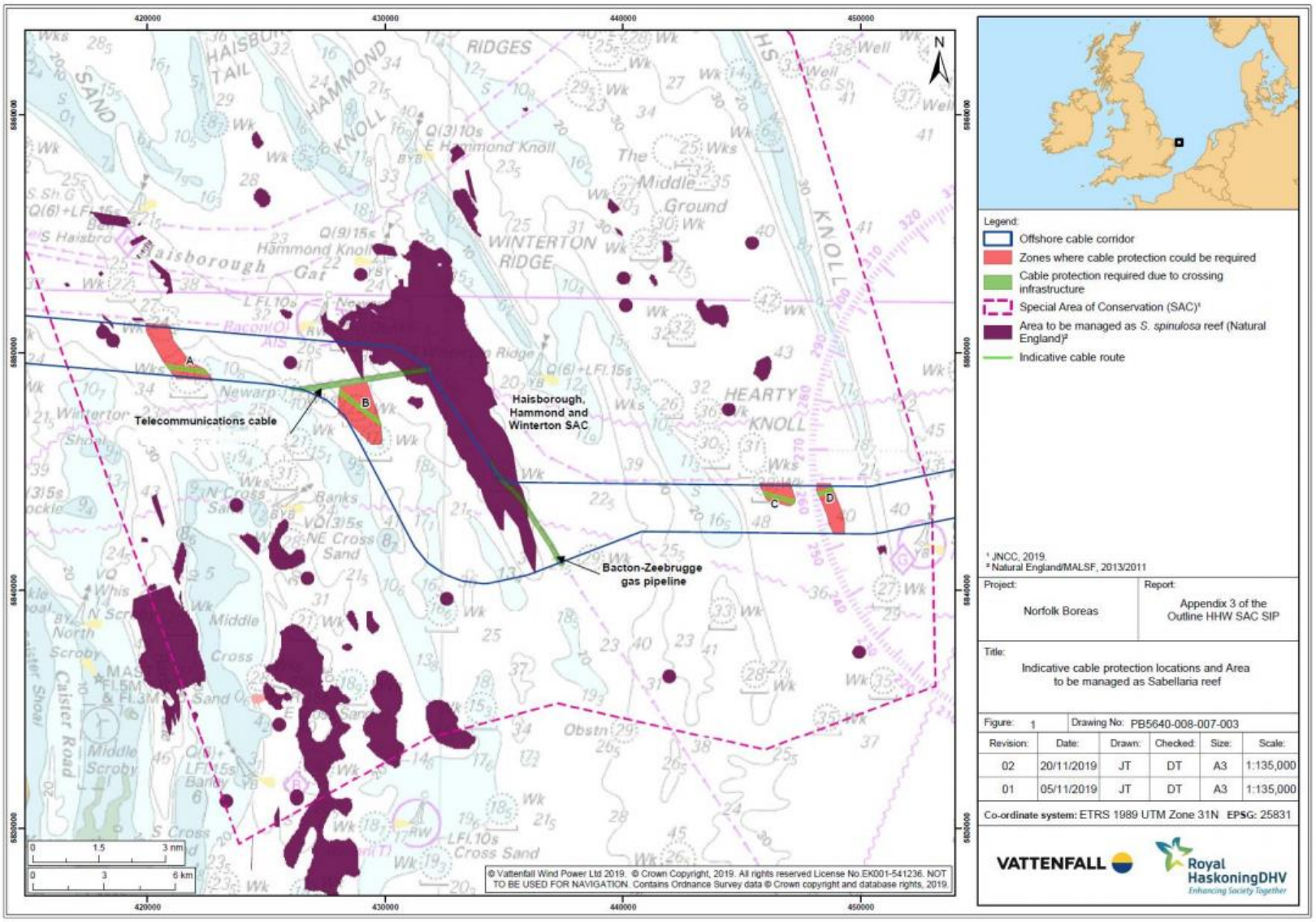

Figure 2.1 Cable protection locations to be assessed in the assessment of effects of habitat loss on Annex 1 Reef

2.3 Cable Installation effects on Annex 1 Reef

35. While the Applicant notes that additional information was requested by BEIS regarding cable protection only, it is understood that NE has concerns regarding the potential effects of cable installation on Annex 1 Reef and therefore this section provides the Applicant's position on this matter.

2.3.1 Micrositing

36. Natural England's Relevant Representation for Norfolk Vanguard (RR106) states: "*Whilst Natural England understands that on the basis of survey data at this point there should be room to microsite around reef in cable corridor, we note that this may not be the case pre construction.*"

37. The Applicant agrees that the existing data provides evidence of the Applicant's ability to microsite installation of the cables so as to avoid reef. However, the Applicant also recognises that as *S. spinulosa* is an ephemeral species (as discussed in Section 1.4) it has potential to increase, decrease or change location prior to construction of Norfolk Vanguard.

38. A significant volume of survey data has been gathered, collated and analysed concerning the likely presence and distribution of the *S. spinulosa* reef within the HHW SAC with respect to the proposed offshore cable corridor for Norfolk Vanguard. This includes data collected specifically for the project in 2016 as well as a wide range of existing data, as described in Appendix 7.2 of the Information to support HRA report (document reference 5.3.7.2, Envision Sabellaria Reef Mapping).

39. The Applicant also recognises that *S. spinulosa* reef may occur anywhere within the SAC and would be a protected Annex 1 feature of the HHW SAC. As such, the Applicant has committed to microsite around all Annex 1 Reef recorded during the pre-construction surveys where possible.

40. The Applicant understands that Natural England is concerned that micrositing may not be possible if *S. spinulosa* reef were to significantly expand its distribution prior to construction of Norfolk Vanguard. Natural England's justification for a potential increase in extent of *S. spinulosa* reef is primarily on the basis of proposed fisheries management areas in the HHW SAC which would reduce the existing pressures on *S. spinulosa* reef, however the Applicant notes that there remains significant uncertainty regarding the effect the measures will have prior to construction of Norfolk Vanguard, in particular:

- With regards to the DEFRA fisheries management area, at the time of writing this designation does not appear to have progressed since a draft

recommendation[2] was produced by DEFRA in 2016 and there is a high level of uncertainty that this designation will progress in advance of Norfolk Vanguard construction (proposed to commence in 2025). As stated in the MMO's Deadline 6 submission (REP6-030), fisheries management measures in offshore waters are required to be agreed by other Member States with an active interest in the site, which had not been possible. The likelihood of this management measure being successfully implemented in advance of construction is therefore extremely low, with the timescale for this management measure highly uncertain and likely to be many years away. It is therefore unlikely that this damaging pressure will be removed and therefore that any *S. spinulosa* Annex 1 reef will have restored in this management area, at the point of cable installation. In any event, available detailed data on fishing activity demonstrates that bottom-contact fishing activity in the offshore part of the HHW SAC is absent from most of the "area to be managed as *Sabellaria* reef" shown in Figure 2.1. The draft Defra Joint Recommendation policy document 2016 (provided in Appendix 1) shows that the majority of fishing activity is concentrated on the sandbanks at the eastern edge of the SAC site (Figures on pages 65 to 69 in Appendix 1) and not in the central and eastern parts where *S.spinulosa* reef has been identified. This pattern of fishing activity is also evidenced by the data presented in Figures 14.2 [APP-461] to 14.38 [APP-497] of the Commercial Fisheries chapter of the Norfolk Vanguard ES. Therefore, the potential for recovery of Annex I *Sabellaria* reef in this location may be limited notwithstanding the removal of fisheries pressures.

- Based on the EIFCA's Deadline 7 submission (REP7-068), the Applicant understands the proposed small byelaw area in the inshore part of the Norfolk Vanguard offshore cable corridor is currently in a period of review by the MMO and DEFRA and could be implemented in 2020, if accepted. It is however noted that there is limited fishing activity at the proposed EIFCA byelaw area and therefore, should this byelaw be implemented, it is uncertain whether there will be a significant change in the habitat condition and extent of *S. spinulosa* Annex I Reef. In any event, this byelaw area does not span the entire width of the cable corridor, such that in the event that *S. spinulosa* Annex 1 reef had recovered in this area at the point of cable installation, there would still be sufficient space to microsite within the existing cable corridor.

41. Therefore, the Applicant maintains that the evidence shows that micrositing around Annex 1 Reef identified during the pre-construction survey will be possible, notwithstanding the ephemeral nature of *S. spinulosa* reef and the potential for

[2] https://lbst.dk/fileadmin/user_upload/NaturErhverv/Filer/Fiskeri/Natura_2000_hav/Fiskeriregulering_i_andre_lande/WORKING_Draft_NNSSR_HWW_Joint_Recommendation_v0.7.pdf

fisheries management measures to come into force. However, for completeness, a summary of the Applicant's position regarding the recoverability of *S. spinulosa* reef, should there be areas where micrositing is not possible, is provided in the section below. In any event, should *S. spinulosa* reef develop to such an extent that it is not possible to route two 30m swathes for Norfolk Vanguard through the 2km to 4km wide offshore cable corridor, this would be an extremely large reef and therefore the proportion of temporary disturbance associated with cable installation would be very small. In addition, the Applicant would suggest that such an extent of reef would far exceed the reef feature that the site was designated for (discussed in Section 1.4) and therefore should no longer require a restoration target.

2.3.2 Recovery

42. There is sufficient evidence from the aggregates dredging industry to indicate that any impacted Annex 1 reef would rapidly recover from cable installation. Studies have shown that established *S. spinulosa* reef rapidly recovers after dredging operations (Pearce et al 2007). This is coupled with evidence from Thanet offshore windfarm, that cable installation can result in an increase in *S. spinulosa* reef extent or lead to additional areas of reef becoming established that were not there previously (Pearce *et al* 2014). This increase at Thanet is likely to be as a result of increased disturbance and suspended sediment, which *S. spinulosa* is well known to require in order to build its biogenic reef structure. Pearce *et al.* (2011b) conducted a number of laboratory experiments and found that gamete release was induced when adult worms were separated from the tubes, suggesting that they spawn in response to disturbance as a means of potentially securing the future population.

43. As discussed in the Information to Support HRA report (document 5.3) evidence suggests that recovery of thin encrusting reefs may commence rapidly, as demonstrated by surveys on the North Yorkshire coast whereby areas of *S. spinulosa* reef that had been lost due to storms had recolonised up to the maximum thickness (2 - 3cm) during the following summer (Holt, 1998). Studies within the Hastings Single Bank aggregate extraction area also found there to be rapid recolonisation of reefs (Pearce *et al.,* 2007).

44. Despite this evidence of *S. spinulosa* recovery, there have been some cases when *S. spinulosa* reefs have been unable to recover after removal in the Wadden Sea. Ecosystem changes (e.g. substrate alterations, and hydrodynamic changes) exacerbated by fishing pressures have been thought to be partly responsible for the lack of recovery (Tillin and Marshall, 2015). The Applicant notes that this is not expected to be applicable to Norfolk Vanguard for the following reasons:

- The Norfolk Vanguard offshore cable corridor is not directly comparable to Wadden Sea and the examples from the North Sea are more directly comparable;
- Norfolk Vanguard has committed to depositing sediment from the HHW SAC back into the HHW SAC in locations to be agreed with the MMO in consultation with Natural England (as secured in the HHW SAC control document 8.20), in order to ensure there will be no significant substrate alterations; and
- Cable installation will cause no discernible hydrodynamic changes in the HHW SAC as the cables will largely be buried. Where cable protection is required for unburied cables this would have a maximum height of 0.9m at crossing locations which, in the context of sandwaves of approximately 2 to 7m in height, will have no effect on the hydrodynamic regime.

45. As discussed above, NE expects the areas to be managed as reef to provide suitable habitat and conditions that *S. spinulosa* reef could recover from impacts associated with intrusive fishing measures should the fishing be restricted. It therefore stands to reason that there is also potential for *S. spinulosa* reef to recover from cable installation activities.

46. On the basis of the example evidence presented here and further details in the Information to Support HRA Report (document 5.3), the Applicant maintains that any disturbed Annex 1 *S. spinulosa* reef can be expected to recover, meaning that should any disturbance occur this would be temporary.

2.3.3 Conclusion regarding cable installation effects on Annex 1 Reef

47. The Applicant is committed to obtaining good quality survey data to enable Annex 1 reef areas to be identified prior to cable installation. The Applicant is confident that the typical sparseness of *S. spinulosa* reef means that micrositing would enable the cable installation to avoid areas of Annex 1 reef and thus an AEoI can be ruled out.

48. However, it is recognised that the extent and distribution of *S. spinulosa* reef in the future (i.e. at the construction stage for Norfolk Vanguard) will be governed by the prevailing conditions and the suitability of the site for settlement and growth of *S. spinulosa* in reef form. In areas of suitable sandy substrate, such as the HHW SAC, the dominant modifier determining the presence, quality and distribution of *S. spinulosa* reef is the intensity and distribution of destructive benthic fisheries effort using beam trawls or dredges (Gibb *et al* 2014). It is recognised that there are long term aspirations of closing a large area of the HHW SAC however, as discussed above, the likelihood that these will come into force before cable installation occurs or, if they do, result in any change, remains uncertain.

49. Using the current available data on the distribution and quality of *S. spinulosa* reef within the HHW SAC, the likelihood of reef loss must be considered low and any small scale loss would be temporary in nature, as the reef is known to recover rapidly.

50. In the unlikely event that *S. spinulosa* reef extends to such an extent that it spans the entire cable corridor preventing avoidance through micrositing, this would be a far greater extent of reef than that which the HHW SAC was designated for and the Applicant considers that this would no longer require restoration and the conservation objective should then be to "maintain" the reef feature. Therefore, any unavoidable small scale impacts would be *de minimis*.

51. It can be concluded that an AEoI can be ruled out on the basis of the weight of evidence presented and the use of an HHW SAC control document (document 8.20)[3] to ensure the Applicant undertakes appropriate survey, cable routing, installation design and mitigation measures, which must be agreed with MMO in consultation with Natural England.

2.4 Cable installation effects on Annex 1 Sandbank

52. While the Applicant notes that additional information was requested by BEIS regarding cable protection only, it is understood that NE has concerns regarding the potential effects of cable installation on Annex 1 Sandbank and therefore this section provides the Applicant's position on this matter.

2.4.1 Recovery

53. The Applicant commissioned a Sandwave Study (provided in Appendix 7.1 of the Information to Support HRA report (document reference 5.3.7.1) which also included consideration of the form and function of the Sandbank system of the HHW SAC. The study concluded that once sediment is redeposited to the seabed, the disturbed sediment will immediately re-join the local and regional sedimentary system, presenting minimal potential to affect the form and function of the sandbank system as a whole.

54. The HHW control document 8.20 secures the following commitments in order to ensure the effects on the Sandbank system are minimised and that an AEoI on the Annex 1 Sandbank of the HHW SAC can be ruled out:

- Sediment arising from the HHW SAC will be deposited back into the SAC to ensure no sediment is lost from the system, enabling recovery of the Sandbanks

[3] Either a SIP or a CSIMP will be certified document 8.20 and both documents are provided in the 28 February 2020 submission. This is explained in the Additional Mitigation document (document reference ExA; Mit; 11.D10.2)

(discussed further in Section 5.4 of Appendix 7.1 of the Information to Support HRA report).

- The location(s) and methodology for disposal must be agreed with the MMO in consultation with Natural England before works can commence.
- The following principles for disposal will be adopted:
  - Material dredged from the seabed for sandwave levelling (also referred to as pre-sweeping) will be deposited in a linear "strip" along the cable route subject to agreement of the locations with the MMO in consultation with Natural England.
  - Disposal of material will be close to the seabed to ensure increased accuracy compared with surface release. This will be achieved through the use of a fall pipe (also referred to as a down pipe) employed by the dredging vessel, subject to agreement of the disposal methodology with the MMO in consultation with Natural England.
  - The Applicant will always attempt to bury any exposed cable within the HHW SAC prior to installing additional cable protection (placement of cable protection in new areas during operation and maintenance would be subject to a separate marine licence, see the Outline Operation and Maintenance Plan document reference 8.11 for further details).
- No use of Jack up vessels within the HHW SAC.

55. It is recognised that it may not be possible to observe all the criteria proposed for sediment disposal at all locations and therefore when determining the location of disposal areas within the SAC the following criteria would be used subject to agreement of the disposal locations and methodology with the MMO in consultation with Natural England:

- Priority 1 – material to be disposed of no closer than 50m to any *S. spinulosa* reef.
- Priority 2- Dispose of material up drift of the cable route, to allow infill to occur as quickly as possible following cable installation.
- Priority 3 - Dispose of material as close as possible to cable route.

2.4.2 Conclusion regarding cable installation effects on Annex 1 Sandbank

56. Due to the extensive commitments made to ensure that any dredging and sediment disposal is undertaken in a way to facilitate rapid recovery of the Sandbank it can be concluded that an AEoI can be ruled out. The HHW SAC control document 8.20, secures the range of mitigation and requires that the disposal locations and method must be agreed with the MMO and Natural England.

3 DEROGATION/ COMPENSATION

57. As outlined in the sections above, the Applicant does not believe that any compensatory measures will need to be progressed due to the delivery of specific mitigation measures committed to by the Applicant which provide certainty that AEoI on the HHW SAC can be avoided.

58. Notwithstanding, the Applicant has provided evidence in relation to the Assessment of Alternatives and Imperative Reasons of Overriding Public Interest (IROPI)(document reference ExA; IROPI; 11.D10.3) and has undertaken a review of in-principle compensatory measures (provided in Appendix 3 of the Habitats Regulation Derogation Provision of Evidence, document reference ExA; IROPI; 11.D10.3.App3). The provision of evidence regarding derogation, including in principle compensation measures is without prejudice to the Applicant's position that there will be no AEoI on the HHW SAC.

3.1 Assessment of alternative solutions

59. Alternative solutions of relevance to the HHW SAC that have been assessed include alternative offshore cable corridors and alternative design solutions regarding cable protection.

60. Sections 4.4.3 and 4.5.4 of the Habitats Regulation Derogation Provision of Evidence (document reference ExA; IROPI; 11.D10.3) show the routes that have been considered and provide evidence that these do not present feasible alternatives that would meet the project objectives and need for the project.

3.2 In principle compensatory measures

61. If compensation is deemed to be required following the Appropriate Assessment, the Applicant proposes that an extension to the HHW SAC would be the most appropriate measure to deliver compensation for both Annex 1 Reef and Annex 1 Sandbank prior to the construction of Norfolk Vanguard, recognising that there are areas of Annex 1 Reef and Annex 1 Sandbank, as mapped by Natural England, that extend beyond the existing boundary of the HHW SAC. The details of this measure including feasibility, delivery mechanism, spatial scale, timescales and monitoring are discussed in Appendix 3 of the Habitats Regulation Derogation Provision of Evidence, document reference ExA; IROPI; 11.D10.3.App3.

4 CONCLUSION

62. In light of the range of evidence presented in the DCO Application and during the Examination, as well as the wide range of mitigation commitments, including further specific mitigation proposed in response to the BEIS letter, the Applicant maintains that there will be no AEoI on the features of the HHW SAC.

63. It is therefore the Applicant's view that there is no requirement for derogation under Article 6(4) of the Habitats Directives, however the Applicant has provided evidence on this matter (in document reference ExA; IROPI; 11.D10.3), including compensatory measures in relation to the HHW SAC in Appendix 3 of the Habitats Regulations Derogation Provision of Evidence (document reference ExA; IROPI; 11.D10.3.App3), on a without prejudice basis.

5 REFERENCES

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VATTENFALL

Norfolk Vanguard Offshore Wind Farm

HHW SAC Position Statement

Appendix 1 Draft Defra Joint Recommendation policy document

Department for Business, Energy and Industrial Strategy (BEIS) Request for information

Document Reference: ExA; Pos; 11.D10.2.App1
Date: 28th February 2020
Author: Royal HaskoningDHV

Photo: Kentish Flats Offshore Wind Farm

Joint Recommendation regarding the protection of sandbanks slightly covered by seawater all the time and reef features within the North Norfolk Sandbanks and Saturn Reef Site of Community Importance and the Haisborough, Hammond and Winterton Site of Community Importance under the Habitats Directive 92/43/EEC of 21 May 1992 under Articles 11 and 18 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy (the Basic Regulation).

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Joint Recommendation

1. Introduction

This joint recommendation contains two proposals for the regulation of fisheries activity and is initiated by the United Kingdom (UK) and submitted to the European Commission jointly by the UK and the following Member States: The Netherlands, France, Denmark, Germany, Sweden and Belgium; being those Member States who have a direct management interest affected by the joint recommendation.

The overall aim of this joint recommendation is to ensure the protection of reef structures (habitat type 1170) and sandbanks which are slightly covered by sea water all the time (habitat type 1110) within the North Norfolk Sandbanks and Saturn Reef Site of Community Importance (SCI) and beyond the 12 nautical mile (nm) limit in the Haisborough, Hammond and Winterton SCI from fisheries, thereby contributing to the obligation of maintaining or restoring reef structures and sandbanks which are slightly covered by seawater all the time to Favourable Condition in accordance with Article 6 of the Habitats Directive[1]. These two SCIs are being taken forward in the same joint recommendation due to their close proximity and similarities.

It is the intention of the UK government (as the initiating Member State) to take forward measures in respect to fisheries activities exercised by all fishing vessels including those carrying the flag of other Member States of the EU.

2. The Recommendations to be Implemented

The following recommendations are proposed for adoption in the North Norfolk Sandbanks and Saturn Reef SCI:

- the exclusion of demersal trawling, dredging and seine netting to protect H1170 reef and the exclusion of demersal trawling and dredging to protect H1110 sandbank features within the site.

[1] Council Directive 92/43/EEC, of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1992L0043:20070101:EN:PDF

Table 1: Gear types that are prohibited in the management areas of the North Norfolk Sandbank and Saturn Reef SCI as shown in Figure 1 (page 23)

Gear types that are banned in the closed areas	Gear code Annex XI in EU Regulation No 404/2011	International Standard Classification of Fishing Gears
Beam trawling (within the blue polygons (areas identified to protect H1110 sandbanks) and red polygons (areas identified to protect H1170 reef)	TBB	TBB
Bottom/Otter trawling (within the blue and red polygons)	OTB, OTT, PTB, TBN, TBS, TB	OTB, OTT, OT, PTB, TB
Dredging (within the blue and red polygons)	DRB	DRB, DRH
Demersal seines (within the red polygons only)	SDN, SSC, SX, SV	SPR, SDN, SSC, SX, SV

The following recommendations are proposed for adoption in the Haisborough, Hammond and Winterton SCI:

- the exclusion of demersal trawls, dredges and seine netting to protect H1170 reef and the exclusion of demersal trawls and dredges to protect H1110 sandbank features within the site.

Table 2: Gear types that are prohibited in the management areas of the Haisborough, Hammond and Winterton SCI as shown in Figure 2 (page 24)

Gear types that are banned in the closed area	Gear code Annex XI in EU Regulation No 404/2011	International Standard Classification of Fishing Gears
Beam trawling	TBB	TBB
Bottom/Otter trawling	OTB, OTT, PTB, TBN, TBS, TB	OTB, OTT, OT, PTB, TB
Demersal seines	SDN, SSC, SX, SV	SPR, SDN, SSC, SX, SV
Dredging	DRB	DRB, DRH

The coordinates of the sites and management boundaries are as follows:

Table 3: North Norfolk Sandbanks site boundary

Point	Latitude	Longitude
1	53˚37′ 0″ N	2˚36′ 0″ E
2	53˚58′ 52″ N	2˚22′ 42″ E
3	53˚0′ 0″ N	2˚7′ 60″ E
4	53˚12′ 3″ N	1˚43′ 1″ E
5	53˚23′ 24″ N	1˚36′ 26″ E
6	53˚26′ 58″ N	1˚55′ 13″ E
7	53˚40′ 57″ N	1˚33′ 18″ E
8	53˚45′ 0″ N	1˚37′ 0″ E
9	53˚36′ 0″ N	2˚4′ 0″ E
10	53˚43′ 0″ N	2˚24′ 0″ E

Table 4: North Norfolk Sandbanks proposed closure for all demersal trawl, dredge and seine gears

Area	Point	Latitude	Longitude
1	1	53˚34′ 30″ N	2˚3′ 30″ E
1	2	53˚34′ 30″ N	2˚9′ 30″ E
1	3	53˚32′ 30″ N	2˚9′ 30″ E
1	4	53˚32′ 30″ N	2˚3′ 30″ E
2	1	53˚31′ 30″ N	1˚57′ 30 E
2	2	53˚29′ 32″ N	2˚0′ 35″E
2	3	53˚26′ 58″ N	1˚55′ 13″ E
2	4	53˚28′ 54″ N	1˚52′ 11″ E
3	1	53˚23′ 30″ N	1˚59′ 0″E
3	2	53˚17′ 50″ N	2˚5′ 9″E
3	3	53˚15′ 52″ N	2˚0′ 30″ E
3	4	53˚21′ 15″ N	1˚53′ 15″ E
4	1	53˚6′ 60″ N	2˚19′ 0″ E
4	2	53˚7′ 37″ N	2˚25′ 45″ E
4	3	52˚58′ 52″ N	2˚22′ 42″ E
4	4	52˚59′ 38″ N	2˚12′ 42″ E

Table 5: North Norfolk Sandbanks proposed closure for demersal trawl and dredge only

Area	Point	Latitude	Longitude
1	1	53˚45′ 0″ N	1˚37′ 0″ E
1	2	53˚36′ 0″ N	2˚4′ 0″ E
1	3	53˚43′ 0″ N	2˚24′ 0″ E
1	4	53˚37′ 0″ N	2˚36′ 0″ E
1	5	53˚29′ 32″ N	2˚0′ 35″ E
1	6	53˚26′ 58″ N	1˚55′ 13″ E
1	7	53˚40′ 58″ N	1˚33′ 18″ E
2	1	53˚26′ 58″ N	1˚55′ 13″ E
2	2	53˚17′ 50″ N	2˚5′ 9″ E
2	3	53˚12′ 55″ N	1˚53′ 35″ E
2	4	53˚5′ 45″ N	2˚5′ 45″ E
2	5	53˚7′ 37″ N	2˚25′ 45″ E
2	6	52˚58′ 52″ N	2˚22′ 44″ E
2	7	53˚0′ 0″ N	2˚7′ 60″ E
2	8	53˚12′ 3″ N	1˚43′ 1″ E
2	9	53˚ 23′ 24″ N	1˚36′ 27″ E

Table 6: Haisborough, Hammond and Winterton site boundary

Point	Latitude	Longitude
1	53˚ 0′ 1″ N	1˚32′ 6″ E
2	53˚ 2′ 43″ N	1˚ 42′ 58″ E
3	52˚ 59′ 59″ N	2˚5′ 47″ E
4	52˚55′ 0″ N	2˚12′ 49″E
5	52˚44′ 34″ N	2˚18′ 15″ E
6	52˚40′ 18″ N	2˚18′ 27″ E
7	52˚38′ 49″ N	2˚12′ 7″ E
8	52˚39′ 48″ N	2˚4′ 21″ E
9	52˚39′ 0″ N	1˚59′ 36″ E
10	52˚36′ 31″ N	1˚52′ 31″ E
11	52˚53′ 31″ N	1˚41′ 54″ E

Table 7: Haisborough, Hammond and Winterton proposed closure for all demersal trawl, dredge and seine gears

Point	Latitude	Longitude
1	52˚50′ 38″ N	1˚45′ 13″ E
2	52˚53′ 0″ N	1˚53′ 0″ E
3	52˚53′ 60″ N	2˚6′ 0″ E
4	52˚50′ 30″ N	2˚12′ 30″ E
5	52˚43′ 30″ N	2˚16′ 48″ E
6	52˚39′ 55″ N	2˚16′ 48″ E
7	52˚39′ 48″ N	2˚4′ 21″ E
8	52˚38′ 60″ N	1˚59′ 36″ E
9	52˚38′ 26″ N	1˚57′ 59″ E

3. Control and enforcement of the proposed fisheries management measures

Control and enforcement of the proposed fisheries management measures will be based on the risk-based systems in accordance with the model developed by the UK's Marine Management Organisation (MMO).

Key provisions which should be included in an EC regulation to facilitate control, enforcement and compliance include:

- A prohibition on any demersal towed gears or dredging being deployed within the management areas of these SCIs.
- Establishment of a 3nm (5.556km) reporting zone around the management areas of the North Norfolk Sandbanks and Saturn Reef SCI and the Haisborough, Hammond and Winterton SCI. All fishing vessels within these areas shall be required to record or report vessel positions at 10 minute intervals. These areas are defined by the reporting zones and coordinates displayed in Annex C.
- A requirement for all fishing vessels entering the reporting zones to have a system for recording and reporting vessel position which meets prescribed specifications (see Section 8.2 of Annex A for minimal requirements) and is installed and operative. Any fishing vessel entering either North Norfolk Sandbanks and Saturn Reef SCI or Haisborough, Hammond and Winterton SCI, or the reporting zones of these sites, without such a system will be committing an offence.

- A requirement for all fishing vessels transiting the prohibited areas carrying prohibited gears to have all gears on board lashed and stowed during transit.
- A requirement for all fishing vessels transiting the restricted areas carrying prohibited gears to ensure that the speed during transit is not less than 6 knots except in the case of force majeure or adverse conditions. In such cases, the master shall immediately inform the fisheries monitoring centre (FMC) of the flag member state which shall then inform the Marine Management Organisation (MMO FMC).

The proposal on which gear types to prohibit is formulated in terms of Gear Codes in Annex XI in EU Regulation 404/2011 and is explained in more detail in Section 8 of Annex A.

The ongoing management needs of these sites will be assessed on an annual basis. If changes to the current management status are required, the UK will coordinate such a requirement in accordance with Articles 11 and 18 of the Basic Regulation and in collaboration with those Member States with a direct management interest in the North Norfolk Sandbanks and Saturn Reef, and the Haisborough, Hammond and Winterton sites.

Joint Recommendation regarding the protection of sandbanks slightly covered by sea water all the time and reef features within the North Norfolk Sandbanks and Saturn Reef Site of Community Importance and the Haisborough, Hammond and Winterton Site of Community Importance under the Habitats Directive 92/43/EEC of 21 May 1992 under Articles 11 and 18 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy (the Basic Regulation).

Supporting Documentation

1. Introduction

1.1 General Remarks

'North Norfolk Sandbanks and Saturn Reef' and 'Haisborough, Hammond and Winterton' sites were both submitted to the European Commission as possible Special Areas of Conservation (SACs) in August 2010 and approved by the Commission as a Sites of Community Importance (SCIs) in November 2011.

The Haisborough, Hammond and Winterton SCI crosses the 6-12nm limit and extends into the offshore region. Belgium are the only Member State with historic access to the 6 to 12nm area of this site. For the 0-6nm area, the MMO and the relevant Inshore Fisheries Conservation Authority (IFCA) will identify appropriate management measures if required. Management measures discussed within in this document relate to features located in the 6-12 area of the site and extending offshore (12nm +).

Under Article 6 of the Habitats Directive, Member States have a duty to take appropriate steps to avoid the deterioration of natural habitats for which SACs have been designated. Commercial fishing has been identified as an activity which could adversely impact the integrity of the sites' features and as such require being assessed and, if necessary, managed to reduce its impact. North Norfolk Sandbanks and Saturn Reef SCI is currently assessed as being in unfavourable condition for both habitat type 1110 and 1170 and has a conservation objective to restore these habitats to a favourable condition. Haisborough, Hammond and Winterton SCI is currently assessed as being in favourable condition for habitat type 1110 and has a conservation objective to maintain this habitat to a favourable condition; and in unfavourable condition for habitat type 1170 and has a conservation objective to maintain or restore this habitat to a favourable condition.

The overall aim of this joint recommendation is to avoid deterioration and, where appropriate, permit recovery in the condition of reef structures and sandbanks which are slightly covered by sea water all the time from fishing activities that could damage the features, thereby contributing to the

obligation of restoring and maintaining these habitat types to favourable condition in accordance with Article 6 of the Habitats Directive.

As the proposed management areas of the North Norfolk Sandbanks and Saturn Reef, and the Haisborough Hammond and Winterton sites fall beyond 12 nautical miles (nm) of the UK coastline, Greater North Sea and Celtic Sea region Member States have access to the North Norfolk Sandbanks and Saturn Reef site in its entirety and the offshore part of the Haisborough, Hammond and Winterton site. However the UK, The Netherlands, France, Denmark and Belgium, and to a lesser extent, Sweden and Germany, are currently the only Member States with an active fishing interest in the site. It is the intention of the UK government (as the initiating Member State) to take forward measures in respect to fisheries activities exercised by all vessels including fishing vessels carrying the flag of other Member States of the EU.

1.2 Overall aim of the present proposals

The overall aim of the present proposal is to ensure adequate protection of designated reef and sandbank structures from fishing activities and thereby to contribute to the obligation of achieving or maintaining favourable conservation status for the habitat types 1170 and 1110 in accordance with Art. 6 (2) of the Habitats Directive; which states that Member States shall take appropriate steps to avoid the deterioration of natural habitats for which the areas have been designated.The Conservation Objectives for the North Norfolk Sandbanks and Saturn Reef SCI is to restore the features *sandbanks slightly covered by seawater all the time* and *reef* to Favourable Condition; and for Haisborough, Hammond and Winterton SCI is to maintain the feature *sandbanks slightly covered by seawater all the time* and maintain or restore the *reef* feature to Favourable Condition. According to advice provided by the Joint Nature Conservation Committee (JNCC), the UK Government's statutory scientific advisor for offshore habitats, where fishing using mobile demersal gears overlaps with the feature it may pose a risk to achieving the conservation objectives for the site. Management measures may focus on the removal of pressures (to reduce the risk of not achieving the conservation objectives to the lowest possible level), or the reduction of pressures (to reduce the risk of not achieving the conservation objectives).

The UK is proposing to restrict fishing activity with mobile demersal gears within certain areas of sites where such activity could pose a risk to the restoration of the sites to favourable conservation status. Where there is uncertainty regarding the impacts of fishing on the features, an "adaptive management" approach is proposed, which would allow the site to move towards its conservation objectives while providing the opportunity to improve our understanding of the impacts and subsequently adapt management accordingly.

The content of the proposed fisheries management measures is explained in more detail in section 1.3

1.3 Recommendations to be implemented

The following recommendations are proposed for adoption in the North Norfolk Sandbanks and Saturn Reef SCI :

- the exclusion of all demersal trawls, dredges and seine netting to protect H1170 reef and the exclusion of demersal trawls and dredges to protect a proportion of the H1110 sandbank feature within the site.

Table 1: Gear types that are prohibited in the management areas of the North Norfolk Sandbank and Saturn Reef SCI as shown in Figure 1 on page 23

Gear types that would be banned within the site	**Gear code Annex XI in EU Regulation No 404/2011**	**International Standard Classification of Fishing Gears**
Beam trawling (within the blue polygons (areas identified to protect Annex I sandbanks) and red polygons (areas identified to protect Annex I reef)	TBB	TBB
Bottom/Otter trawling (within the blue and red polygons)	OTB, OTT, PTB, TBN, TBS, TB	OTB, OTT, OT, PTB, TB
Dredging (within the blue and red polygons)	DRB	DRB, DRH
Demersal Seines (within the red polygons only)	SDN, SSC, SX, SV	SPR, SDN, SSC, SX, SV

The following recommendations are proposed for adoption in the Haisborough, Hammond and Winterton SCI:

- the exclusion of all demersal trawls, dredges and seine netting to protect H1170 reef and the exclusion of all demersal trawls and dredges in a proportion of H1110 sandbank features within the site.

Table 2: Gear types that are prohibited in the management areas of the Haisborough, Hammond and Winterton SCI as shown in Figure 2 on page 24

Gear types that would be banned within the site	**Gear code Annex XI in EU Regulation No 404/2011**	**International Standard Classification of Fishing Gears**
Beam trawling	TBB	TBB
Bottom/Otter trawling	OTB, OTT, PTB, TBN, TBS, TB	OTB, OTT, OT, PTB, TB
Demersal Seine	SDN, SSC, SX, SV	SPR, SDN, SSC, SX, SV
Dredging	DRB	DRB, DRH

The coordinates of the sites and management boundaries are as follows:

Table 3: North Norfolk Sandbanks and Saturn Reef SCI site boundary

Point	Latitude	Longitude
1	53˚37′ 0″ N	2˚36′ 0″ E
2	53˚58′ 52″ N	2˚22′ 42″ E
3	53˚0′ 0″ N	2˚7′ 60″ E
4	53˚12′ 3″ N	1˚43′ 1″ E
5	53˚23′ 24″ N	1˚36′ 26″ E
6	53˚26′ 58″ N	1˚55′ 13″ E
7	53˚40′ 57″ N	1˚33′ 18″ E
8	53˚45′ 0″ N	1˚37′ 0″ E
9	53˚36′ 0″ N	2˚4′ 0″ E
10	53˚43′ 0″ N	2˚24′ 0″ E

Table 4: North Norfolk Sandbanks and Saturn Reef SCI proposed closure for all demersal trawl, dredge and seine gears

Area	Point	Latitude	Longitude
1	1	53˚34′ 30″ N	2˚3′ 30″ E
1	2	53˚34′ 30″ N	2˚9′ 30″ E
1	3	53˚32′ 30″ N	2˚9′ 30″ E
1	4	53˚32′ 30″ N	2˚3′ 30″ E
2	1	53˚31′ 30″ N	1˚57′ 30 E
2	2	53˚29′ 32″ N	2˚0′ 35″E
2	3	53˚26′ 58″ N	1˚55′ 13″ E
2	4	53˚28′ 54″ N	1˚52′ 11″ E
3	1	53˚23′ 30″ N	1˚59′ 0″E
3	2	53˚17′ 50″ N	2˚5′ 9″E
3	3	53˚15′ 52″ N	2˚0′ 30″ E
3	4	53˚21′ 15″ N	1˚53′ 15″ E
4	1	53˚6′ 60″ N	2˚19′ 0″ E
4	2	53˚7′ 37″ N	2˚25′ 45″ E
4	3	52˚58′ 52″ N	2˚22′ 42″ E
4	4	52˚59′ 38″ N	2˚12′ 42″ E

Table 5: North Norfolk Sandbanks and Saturn Reef SCI proposed closure for demersal trawl and dredge gears only

Area	Point	Latitude	Longitude
1	1	53˚45′ 0″ N	1˚37′ 0″ E
1	2	53˚36′ 0″ N	2˚4′ 0″ E
1	3	53˚43′ 0″ N	2˚24′ 0″ E
1	4	53˚37′ 0″ N	2˚36′ 0″ E
1	5	53˚29′ 32″ N	2˚0′ 35″ E
1	6	53˚26′ 58″ N	1˚55′ 13″ E
1	7	53˚40′ 58″ N	1˚33′ 18″ E
2	1	53˚26′ 58″ N	1˚55′ 13″ E
2	2	53˚17′ 50″ N	2˚5′ 9″ E
2	3	53˚12′ 55″ N	1˚53′ 35″ E
2	4	53˚5′ 45″ N	2˚5′ 45″ E
2	5	53˚7′ 37″ N	2˚25′ 45″ E
2	6	52˚58′ 52″ N	2˚22′ 44″ E
2	7	53˚0′ 0″ N	2˚7′ 60″ E
2	8	53˚12′ 3″ N	1˚43′ 1″ E
2	9	53˚ 23′ 24″ N	1˚36′ 27″ E

Table 6: Haisborough, Hammond and Winterton SCI site boundary

Point	Latitude	Longitude
1	53˚ 0′ 1″ N	1˚32′ 6″ E
2	53˚ 2′ 43″ N	1˚ 42′ 58″ E
3	52˚ 59′ 59″ N	2˚5′ 47″ E
4	52˚55′ 0″ N	2˚12′ 49″E
5	52˚44′ 34″ N	2˚18′ 15″ E
6	52˚40′ 18″ N	2˚18′ 27″ E
7	52˚38′ 49″ N	2˚12′ 7″ E
8	52˚39′ 48″ N	2˚4′ 21″ E
9	52˚39′ 0″ N	1˚59′ 36″ E
10	52˚36′ 31″ N	1˚52′ 31″ E
11	52˚53′ 31″ N	1˚41′ 54″ E

Table 7: Haisborough, Hammond and Winterton SCI proposed closure for all demersal trawl, dredge and seine gears

Point	Latitude	Longitude
1	52˚50′ 38″ N	1˚45′ 13″ E
2	52˚53′ 0″ N	1˚53′ 0″ E
3	52˚53′ 60″ N	2˚6′ 0″ E
4	52˚50′ 30″ N	2˚12′ 30″ E
5	52˚43′ 30″ N	2˚16′ 48″ E
6	52˚39′ 55″ N	2˚16′ 48″ E
7	52˚39′ 48″ N	2˚4′ 21″ E
8	52˚38′ 60″ N	1˚59′ 36″ E
9	52˚38′ 26″ N	1˚57′ 59″ E

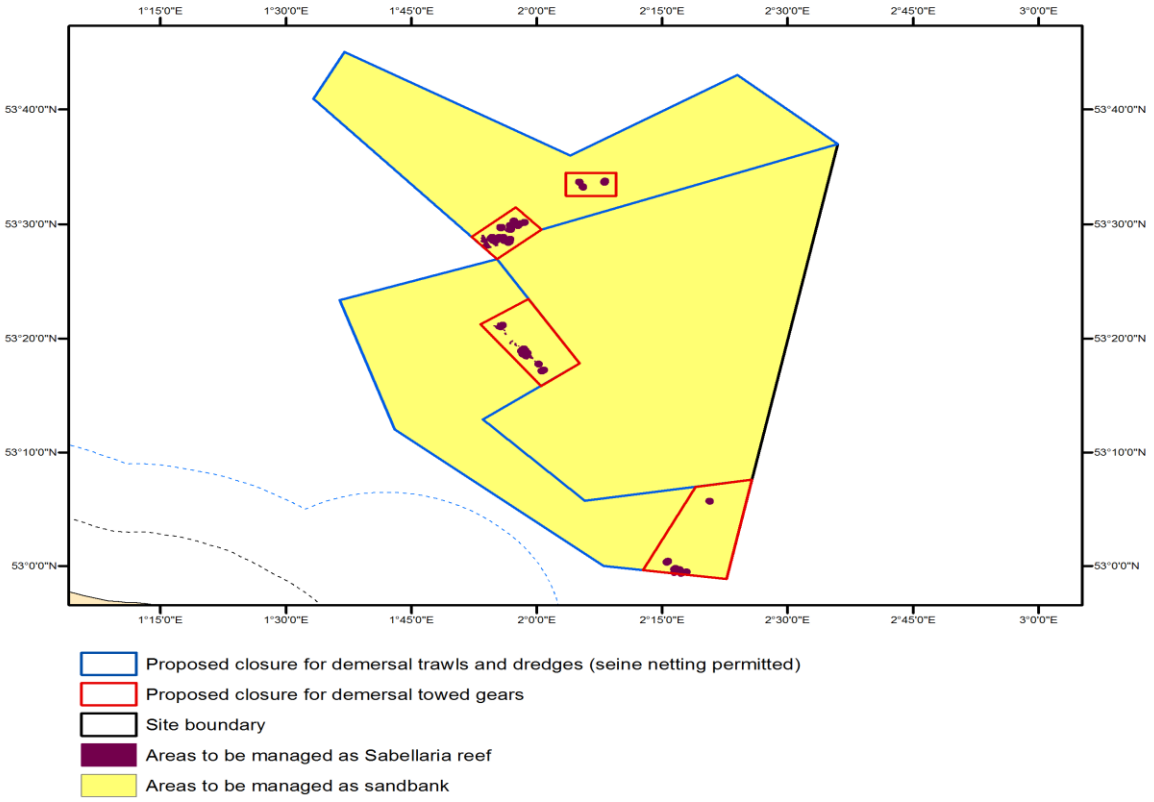


Figure 1: Map of the North Norfolk Sandbanks and Saturn Reef SCI site and management boundaries

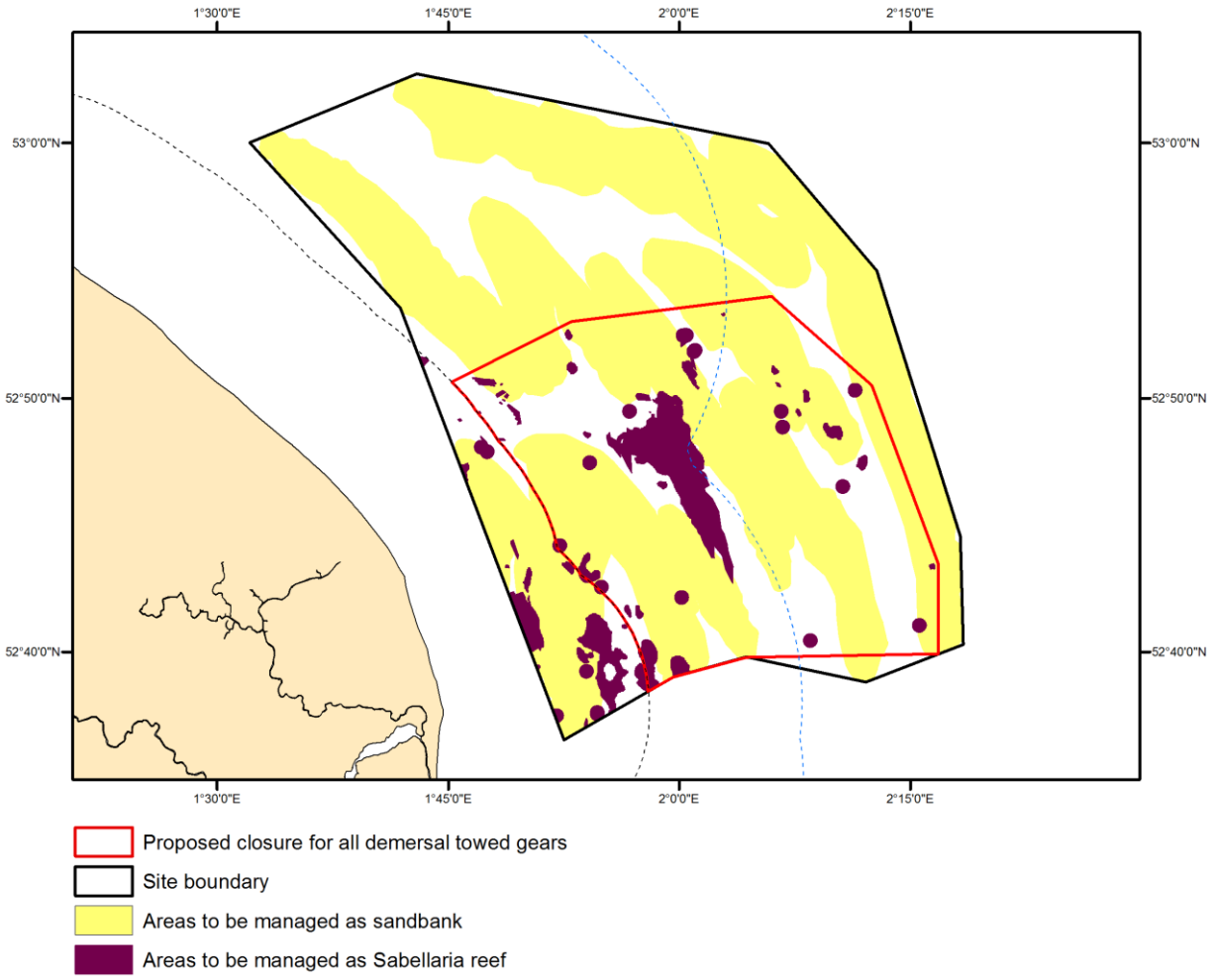


Figure 2: Map of Haisborough, Hammond and Winterton SCI site and management boundaries

2. Legal framework

2.1 Common Fisheries Policy

The Common Fisheries Policy (Regulation No 1380/2013 (The Basic Regulation) Article 11) states that Member States are empowered to adopt conservation measures not affecting fishing vessels of other Member States that are applicable to waters under their sovereignty or jurisdiction and that

are necessary to comply with the obligations under Article 6 of Directive 92/43/EEC and Article 13(4) of 2008/56/EC.

Where a Member State ("initiating Member State") considers that measures need to be adopted for the purpose of complying with the obligations referred to above, and other Member States have a direct management interest in the fishery to be affected by such measures, the European Commission shall be empowered to adopt such measures, upon request, by means of delegated acts. For this purpose cooperation between Member States having a direct management interest is foreseen with a view to formulating a joint recommendation in agreement on draft fisheries management measures to be forwarded to the Commission.

The initiating Member State shall provide the Commission and the other Member States having a direct management interest with relevant information on the measures required, including their rationale, scientific evidence in support and details on their practical implementation and enforcement. Member States shall consult the relevant Advisory Councils.

The initiating Member State and the other Member States having a direct management interest may submit a joint recommendation within six months from the provision of sufficient information. The Commission shall adopt the measures, taking into account any available scientific advice, within three months from receipt of a complete request (Reg 1380/2013, Articles 11 and 18).

The following chapters describe how the UK, as the initiating Member State, has taken the Commission's criteria for decision making into account, as well as the requirements for regional coordination in line with the new Basic Regulation.

2.2 Fisheries Access to the North Norfolk Sandbanks and Saturn Reef SCI and the Haisborough Hammond and Winterton SCI

In accordance with the Basic Regulation the following Member States operate mobile demersal gears within the proposed management zones: UK, The Netherlands, France, Denmark, Belgium, Sweden and Germany.

2.3 Designation of the North Norfolk Sandbanks and Saturn Reef SCI and the Haisborough Hammond and Winterton SCI

The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (SI 2007/1842)[2], as amended, provide the legal basis for the designation of Natura 2000 sites in offshore waters and

[2] http://www.legislation.gov.uk/uksi/2007/1842/contents/made

areas of the extended continental shelf in the UK. In accordance with Regulation 7 of the above Regulations, both the 'North Norfolk Sandbanks and Saturn Reef' and the 'Haisborough Hammond and Winterton' sites were submitted to the European Commission as Candidate Special Areas of Conservation (cSACs) in August 2010 and adopted by the Commission as SCIs in November 2011. In accordance with Article 4(4) of the Habitats Directive, Member States have a maximum of six years from the site being adopted as a SCI to implement the necessary management measures and formally designate the site as a SAC.

3. Process

This chapter describes the process from when the initiative to protect sandbank and reef structures from fisheries activities at North Norfolk Sandbanks and Saturn Reef SCI and Haisborough, Hammond and Winterton SCI were commenced at a fisheries management workshop held in The Hague in August 2014 by the Department for Environment Food and Rural Affairs (Defra) until the submission of fisheries management measures in the form of 'A Joint Recommendation' by the UK, The Netherlands, France, Denmark, Germany, Sweden and Belgium to the European Commission.

3.1 Stakeholder workshops

Two workshops were held in the Netherlands and the UK in August 2014 and May 2015 with the intention of allowing stakeholder input to management measures. The meetings were attended by representatives of the Dutch, French, Belgian and UK fishing industries and environmental Non-Governmental Organisations (NGOs).

Participants were provided with fisheries management options papers for the sites, which discussed the risk to achievement of the conservation objectives associated with a range of management options, and they were invited to contribute to the process of developing appropriate management measures to achieve the conservation objectives while complying with the principals of proportionality and non-discrimination.

While it was not possible to achieve agreement on management measures during these meetings, stakeholder views were recorded (these meeting minutes are available in a separate annex) and taken into consideration in subsequent drafting of measures.

Representatives of the Dutch industry (VISNED) undertook to consult more fully with their members and subsequently submitted their own draft proposals for fisheries management measures which are set out at Annex D (a separate document).

3.2 Involvement of the North Sea Advisory Council (to be completed)

3.3 Rationale for measures

Impacts of mobile demersal gears (including scallop dredges, beam trawls, otter trawls and seines)

Reefs (1170)

Demersal towed gears have the potential to effect the long term natural distribution of the *Sabellaria spinulosa* reefs and the structure and function of their associated biological communities.

Loss of *Sabellaria spinulosa* reefs in the North East Atlantic has been attributed to the long-term effects of various fishing practices, predominantly that of towed demersal gear (Jones et al, 2000; Holt at al. 1998). Trawls break apart *S. spinulosa* tubes, resulting in direct mortality of the worms and a reduction of the structure and complexity of the habitat, which may no longer support associated animals and plants (UK Biodiversity Action Plan, 2000).

Consequently, it is concluded that use of any mobile demersal gear (including seine netting) would result in an unacceptable risk to the conservation objectives for these features.

Sandbanks which are slightly covered by sea water all the time (1110)

Whilst it is unlikely that mobile bottom contact gear can affect the long-term natural distribution of sandbanks, there is evidence to indicate that the use of bottom contacting mobile gears can impact the structure and function of the habitat and the long term survival of its associated species.

The extent to which mobile gear impacts on sand and gravel communities can vary considerably, according to the type of gear, the intensity of fishing and the sediment composition. Trawling and dredging tend to cause increased mortality of fragile and long lived species and favour opportunistic, disturbance-tolerant species (Bergman & Van Santbrink, 2000; Eleftheriou & Robertson, 1992). Some particularly sensitive species may disappear entirely (Bergman & Van Santbrink, 2000). The net result is benthic communities modified to varying degrees relative to the un-impacted state (Bergman & Van Santbrink, 2000; Kaiser *et al*. 2006). In higher energy locations, for example the sandy bank tops or wave and/or tide exposed areas the associated fauna tend to be well adapted to disturbance and as a result are more tolerant of fishing-related disturbance (Dernie *et al.* 2003; Hiddink *et al.* 2006). The habitat may be maintained in a modified state; however modification is likely to be low relative to natural variation. In lower energy locations, such as muddy sands and sand in deep water, or on the flanks and towards troughs between banks, sediments tend to be more stable and their

associated fauna less tolerant of disturbance (Kaiser *et al*. 2006; Hiddink *et al.* 2006). The habitat may be maintained in a modified state with reduced abundance of fragile, long lived species.

Considering the degree of uncertainty regarding the impacts of trawling and dredging and the level at which their effects would be considered unacceptable, it was decided to implement an "adaptive management" approach, whereby a proportion of the feature will be closed to these gears and subsequently monitored to improve our understanding of impacts and inform future management.

Demersal seines (Danish and Scottish seines) lack the heavy penetrating gear components of mobile demersal gears, such as otter doors and trawl shoes (Suuronen et al. 2012; Donaldson et al 2010), so the risk of impact to the sandbank feature is considered likely to be lower. In this case, the risk to the achievement of the conservation objective for sandbanks slightly covered by seawater is considered to be sufficiently low that no additional management is considered necessary. However, if monitoring indicates impacts from these gears, it may be necessary to impose some degree of management in the future.

Impacts of static demersal gears (including gillnets, trammel nets, longlines, pots and traps)

Reefs (1170)

It is unlikely that demersal static gears at moderate levels of fishing effort will have a significant effect on the long-term natural distribution of *Sabellaria spinulosa* reefs, or on the structure and function of their associated biological communities. Sensitivity of *S. spinulosa* reefs to static gears is low to medium depending on fishing intensity (Hall *et al.* 2008; Tillin *et al*. 2010). However, effects at high levels of fishing intensity are uncertain and it is possible in some circumstances that damage to reef structures could exceed their capacity to recover.

The risk to the achievement of the conservation objective is considered to be sufficiently low that no additional management is considered necessary for demersal static gears. However, if monitoring indicates impacts from these gears, it may be necessary to introduce some degree of management in the future.

Sandbanks which are slightly covered by sea water all the time (1110)

Demersal static gears are considered unlikely to have a significant effect on the long-term natural distribution of sandbanks, or on the structure and function of their associated biological communities at any level.

The risk to the achievement of the conservation objective is considered to be sufficiently low that no additional management is considered necessary for demersal static gears. However, if monitoring indicates impacts from these gears, it may be necessary to introduce some degree of management in the future.

3.4 Principles

The UK Government is responsible for ensuring favourable conservation status of designated marine habitats and species in its respective Natura 2000 network and for taking appropriate steps to avoid the deterioration of natural habitats as well as disturbance of the species for which the Natura 2000 site has been designated.

Based on scientific advice from JNCC and where relevant Natural England, concerning the level of risk associated with a range of management options , the UK has decided to protect reef structures (H1170) and sandbanks slightly covered by sea water all the time (H1110) from physical disturbances due to mobile bottom towed gear.

When formulating the present proposal, the following principles have been focal points:

1. Sound scientific basis

This proposal for fisheries management measures is based on scientific evidence and advice, and takes all relevant information into account. JNCC has provided scientific advice in relation to the principles and methods pursued in the present proposal. The proposal has also been reviewed by CEFAS. The advice from CEFAS was that the proposed approach for the two sites is considered to be consistent with ensuring favourable conservation status of designated marine habitats and species in their respective Natura 2000 network and for taking appropriate steps to avoid the deterioration of natural habitats as well as disturbance of the species for which these Natura 2000 sites have been designated whilst at the same time minimising the effect on the fishing industry.

2. Stakeholder involvement

An important element of the process of formulating fisheries management measures has been the involvement of stakeholders. This has been outlined in further detail in sections 3.1 and 3.2.

3. Transparency

In this proposal the UK has been transparent on the data being used, the steps being taken and the methodology used, as well as the involvement of stakeholders.

4. *Proportionality*

An approach was sought that would deliver a regulatory proposal that delivers a key contribution to the achievement of the conservation objectives while minimising the effect on the fishing industry. A key safeguard in the process to deliver such an outcome was to follow the European Commission guidance in this regard, which described a proportional approach towards balancing sustainable exploitation of resources and the need to conserve important habitats, including a precautionary approach to fisheries management.

5. *Non discrimination*

The proposal will need to ensure that measures are not applied in a discriminatory manner. A coordinated approach between Member States is the only way of ensuring non discrimination for fleets affected by the proposed measures. Ultimately, a proposal is presented to the European Commission for regulation in the framework of the Common Fisheries Policy, ensuring a level playing field for the fishing sector affected.

3.5 Proposal scope

North Norfolk Sandbanks and Saturn Reef SCI

The proposed management boundary for a closure to demersal trawls and dredges encompasses approximately 54% of the site and therefore approximately 54% of the H1110 sandbank feature within the site.

The proposed management boundary for a closure to demersal trawls, dredges and seines encompasses approximately 8% of the site and 100% of the H1170 reef feature within the site.

Haisborough Hammond and Winterton SCI

The proposed management boundary for a closure to demersal trawls, dredges and seines encompasses approximately 45% of the site, approximately 70% of the H1170 reef feature within the site (100% of the H1170 feature reef in the parts of the site beyond 6nm) and approximately 43% of the H1110 sandbank feature within the site (approximately 50% of the H1110 sandbank feature in the parts of the site beyond 6nm) .

3.6 Restriction of fisheries within the sites

The proposed management measures prohibit the use of all demersal trawls and dredges across the management areas of both sites, and in addition, seine netting over H1170 reef features with appropriate buffer zones. This will be enforced by the control and monitoring measures described in section 8 of Annex A.

List of Annexes:

Annex A – Overview of the 11 information items in the Commission's guidelines from 2008

Annex B – Map of UK marine Natura 2000 network

Annex C – Map and Coordinates for North Norfolk Sandbanks and Saturn Reef SCI reporting zone with increased reporting

Annex D – Map and coordinates for Haisborough, Hammond and Winterton SCI reporting zone with increased reporting

Annex E – Visned Management Proposal for Haisborough, Hammond and Winterton SCI

Annex F – References

Annex A – Overview of the 11 information items in the Commission's guidelines from 2008

The Commission has issued guidance on a consistent approach to requests for fisheries management measures under the Common Fisheries Policy[3]. Accordingly, this document provides the scientific and technical information required to support a formal request to the Commission for fisheries regulation under the Common Fisheries Policy.

1 **Comprehensive description of the natural features including distribution within the sites**

The North Norfolk Sandbanks are the most extensive example of the offshore linear ridge sandbank type in UK waters. They are subject to a range of current strengths which are strongest on the banks closest to shore and which reduce offshore. The outer banks are the best example of open sea, tidal sandbanks in a moderate current strength in UK waters. Sandwaves are present, being best developed on the inner banks; the outer banks having small or no sandwaves associated with them.

In 2013, Cefas and JNCC carried out a targeted survey of the MPA which identified three EUNIS level 3 habitat types; Sublittoral Sands, Sublittoral Mixed Sediments and Sublittoral Coarse Sediments (Jenkins et al. 2015). Samples from the biological communities recorded fewer species on the inner banks and the eastern most end of the outer banks. Increasing species numbers were recorded on the outer most banks, particularly on the Indefatigables and the western-most end of the Swarte Bank, which is likely to be related to the change in hydrodynamic regime with increasing distance from the coast. JNCC undertook additional statistical analysis of the biological communities present within the SCI, using data from grab and video samples from the 2013 survey. This analysis identified four community biotopes, based on the characterising species and sediment composition. It was concluded that these biological communities occur across the MPA, including adjacent areas to the individually modelled sandbanks where the seabed is deeper than 20m. As such, the entire MPA should be considered as a representative functioning example of the H1110 feature Sandbanks which are slightly covered by sea water all the time.

Saturn reef was discovered in 2002 as an area of *Sabellaria spinulosa* biogenic reef covering an area approximately 750m by 500m, varying in density over this area. Subsequent surveys failed to identify the extensive areas of S.spinulosa reef previously identified at Saturn Reef. However, the 2013 Cefas and JNCC survey recorded *Sabellaria spinulosa* reef at a number of locations within the site, including an area overlapping with the original location of Saturn Reef, suggesting the potential migration of the Saturn Reef feature in a westerly direction, or loss of the feature and development

[3] http://ec.europa.eu/environment/nature/natura2000/marine/docs/fish_measures.pdf

of subsequent reef structures (Jenkins et al. 2015). The previous extent of Saturn reef, in comparison to the more recently collated data highlights the ephemeral nature of this feature, and indicates the favourable conditions for *S.spinulosa* formation within the MPA. As certain types of ground truthing data provide information on reef presence but not extent, a 500m margin has been included as part of the feature for point and polyline records. This is considered appropriate to account for uncertainty in reef extent.

The Haisborough, Hammond and Winterton SCI lies off the north east coast of Norfolk, and contains a series of sandbanks which meet the Annex I habitat description for "Sandbanks slightly covered by sea water all the time". The central sandbank ridge in the site is composed of alternating ridge headland associated sandbanks. This ridge consists of the sinusoidal banks which have evolved over the last 5,000 years, originally associated with the coastal alignment at the time that the Holocene marine transgression occurred. Individual banks have been delineated using a slope analysis methodology (Klein, 2006) and a precautionary margin of 500m has been added to each bank to account for uncertainty in feature extent. A further margin of 1,000m has been added to the boundary of Middle and North Cross sandbanks to account for migration in the last 5 years and over the next 5 years.

The sandy sediments within the site are very mobile in the strong tidal currents which characterise the area. Large-scale bank migration or movement appears to be slow, but within the sandbank system there is a level of sediment movement around, and also across, the banks. This is evidenced by megaripple and sandwave formations on the banks. Infaunal communities of the sandy bank tops are consequently of low biodiversity, characterised by mobile polychaetes and amphipods which are able to rapidly re-bury themselves into the dynamic sediment environments. Along the flanks of the banks the sediments tend to be slightly more stable with gravels exposed in areas. In these regions of the site, infaunal and epifaunal communities are much more diverse. There are a number of areas where sediment movements are reduced and these areas support an abundance of attached bryozoans, hydroids and sea anemones. Other tube-building worms such as keel worms *Pomatoceros* sp. and sand mason worms *Lanice conchilega* are also found in these areas, along with bivalves and crustaceans.

Sabellaria spinulosa reef is an ephemeral feature, and thus presents a challenge to precisely map its location at any instance in time. The most recent data for this site has been gathered from the Marine Aggregate Levy Sustainability Fund's East Coast Regional Environmental Characterisation (REC) survey (MALSF, 2010) and ground truthing data from a Cefas/JNCC benthic Survey of the site

undertaken in 2011 (Frojan et al, 2013). This new data is in addition to that provided in the original Haisborough Hammond and Winterton Site Assessment Document (JNCC/NE, 2010). As certain types of ground truthing provide information on reef presence but not extent, a 500m margin has been included as part of the feature for point and polyline records, as shown in Figure 2. This is considered appropriate to account for uncertainty in reef extent.

2 Scientific rationale for the site's selection. Intrinsic value of its features. Specific conservation objectives

The North Norfolk Sandbanks and Saturn Reef and Haisborough, Hammond and Winterton sites are located in the Southern North Sea Regional Sea and represent Annex I sandbanks and biogenic reef.

The North Norfolk Sandbanks and Saturn Reef site represents non-vegetated, sublittoral, open shelf ridge tidal current sandbanks consisting of sandy sediment. The interest feature is located in full salinity waters, away from coastal influences. The North Norfolk sandbanks as a group are the best example of tidal linear sandbanks in UK waters.

The site also represents *Sabellaria spinulosa* biogenic reef in an open, tide-swept situation on sand and gravelly sand habitat. The interest feature is located in full salinity waters, away from coastal influences. Despite the widespread occurrence of the species *Sabellaria spinulosa*, there are few known areas of well developed biogenic reef formed by *Sabellaria spinulosa* in UK waters (and very few in other European waters).

The Haisborough, Hammond and Winterton site contains a number of non-vegetated sublittoral headland associated sandbanks with alternating ridges. These sandbanks are curved and orientated parallel to the coast, composed of sandy sediment and lie in full salinity water with intermediate coastal influence.

As well as sandbanks, biogenic reef is also a feature of Haisborough Hammond and Winterton. The habitat feature is located in full salinity waters and separated from coastal influences by the series of sandbanks aligned along the coast. Despite the widespread occurrence of the species S. spinulosa, there are few known areas of well developed biogenic reef formed by this species in UK waters (and very few in other European territorial waters).

2.1 Conservation objectives

Conservation objectives set out the desired state for the protected features of an MPA. The conservation objectives for the protected features of the sites have been set based on knowledge of the condition of the protected features at the time of writing.

The conservation objectives for the protected features of the North Norfolk Sandbanks and Saturn Reef MPA are:

Subject to natural change, **restore** the sandbanks and reef to favourable condition such that:

- The natural environmental quality, natural environmental processes and extent are maintained;
- The physical structure, diversity, community structure and typical species representative of sandbanks which are slightly covered by seawater all the time and reefs in the Southern North Sea are restored.

The conservation objectives for the protected features of the Haisborough, Hammond and Winterton MPA are:

Subject to natural change **maintain** the sandbanks in **favourable condition**, in particular the sub-features:

- Low diversity dynamic sand communities;
- Gravelly muddy sand communities.

Subject to natural change, **maintain** or **restore** the reefs in **favourable condition**.

3 Basis for the spatial extent of the site boundaries clearly justified in terms of conservation objectives

The site boundary for the North Norfolk Sandbanks and Saturn Reef site was defined using JNCC's marine SAC boundary definition guidelines (JNCC, 2012) and information provided during public consultation on this site in 2007-2008. The boundary is a simple polygon enclosing the minimum area necessary to ensure protection of the Annex I habitats, taking into account potential movement of the sandbanks. The boundary presented includes both 'sandy sediments in less than 20m water depth' and the flanks and troughs of these banks which are also part of the sandbank feature but extend into deeper waters. Coordinate points have been positioned as close to the edge of these interest features as possible, rather than being located at the nearest whole degree or minute point.

No buffer to allow for mobile gear was applied given the shallow water depth at this site and the lack of a precise feature edge from which to add a margin.

The boundary of the site has been defined to enable conservation of the structure and functions of the sandbanks and to include representation of both more disturbed (inshore) and more stable (offshore) sandbank biological communities. The sandbank structures are maintained through offshore sediment transport, with each bank acting as a stepping stone, and the development of new sandbanks between existing banks. Therefore, the proposed boundary encompasses the whole linear sandbank system rather than attempting to separate out individual banks. The proposed boundary allows for the potential elongation of banks in a north-easterly direction, and the coarse scale at which the underlying geological and bathymetric data are mapped.

The boundary around the Haisborough, Hammond and Winterton cSAC was defined using the guidance provided by JNCC (2012). The boundary is a simple polygon enclosing the minimum area necessary to ensure protection for the Annex I features. A buffer in proportion to water depth was added when defining the site boundary, to allow for the effects of mobile fishing gears on the seabed at some distance from a vessel at the surface. The SCI contains Annex I sandbanks at depths of predominantly <25m BCD. Therefore, a buffer of 100m was used around each sandbank feature (prior to the addition of the 500m margin for uncertainty) except where a straight line between two points was the more sensible option to avoid an overcomplicated boundary.

4 Threats to the long-term natural distribution, structure and functions of the habitats and the long-term survival of associated species from different types of fishing gear. List of other human activities in the area that could damage the habitats

4.1 All mobile demersal gears (including scallop dredges, beam trawls, otter trawls and demersal seines)

Demersal towed gears have the potential to effect the long term natural distribution of the *Sabellaria spinulosa* reefs and the structure and function of their associated biological communities. Loss of Sabellaria spinulosa reefs in the North East Atlantic has been attributed to the long-term effects of various fishing practices, predominantly that of demersal towed gear as in Morecambe Bay (Jones et al, 2000; Holt at al. 1998). Trawls break apart *S. spinulosa* tubes, resulting in direct mortality of the worms and a reduction of the structure and complexity of the habitat, which may no longer support associated animals and plants (UK Biodiversity Action Plan, 2000).

Consequently, it is concluded that use of any mobile demersal gear (including seine netting) would result in an unacceptable risk to achieving the conservation objectives for these features.

Whilst it is unlikely that demersal towed gear can affect the long-term natural distribution of sandbanks, there is evidence to indicate that the use of demersal towed gears can impact the structure and function of the habitat and the long term survival of its associated species.

The extent to which mobile gear impacts on sand and gravel communities can vary considerably, according to the type of gear, the intensity of fishing and the sediment composition. Trawling and dredging tend to cause increased mortality of fragile and long lived species and favour opportunistic, disturbance-tolerant species (Bergman & Van Santbrink, 2000; Eleftheriou & Robertson, 1992). Some particularly sensitive species may disappear entirely (Bergman & Van Santbrink, 2000). The net result is benthic communities modified to varying degrees relative to the un-impacted state (Bergman & Van Santbrink, 2000; Kaiser et al. 2006).

In higher energy locations, for example the sandy bank tops or wave and/or tide exposed areas the associated fauna tend to be well adapted to disturbance and as a result are more tolerant of fishing-related disturbance (Dernie et al. 2003; Hiddink et al. 2006). The habitat may be maintained in a modified state; however modification is likely to be low relative to natural variation. In lower energy locations, such as muddy sands and sand in deep water, or on the flanks and towards troughs between banks, sediments tend to be more stable and their associated fauna less tolerant of disturbance (Kaiser et al. 2006; Hiddink et al. 2006). The habitat may be maintained in a modified state with reduced abundance of fragile, long lived species.

Considering the degree of uncertainty regarding the impacts of trawling and dredging and the level at which their effects would be considered unacceptable, it was decided to implement an “adaptive management” approach, whereby a proportion of the feature will be closed to these gears and subsequently monitored to improve our understanding of impacts and inform future management.

Demersal seines (Danish and Scottish seines) lack the heavy penetrating gear components of demersal trawls, such as otter doors and trawl shoes (Suuronen et al. 2012; Donaldson et al 2010), so the risk of impact to the sandbank feature is considered likely to be lower. In this case, the risk to the achievement of the conservation objective for sandbanks slightly covered by seawater is considered to be sufficiently low that no additional management is considered necessary. However, if monitoring indicates impacts from these gears, it may be necessary to impose some degree of management in the future.

4.2 All demersal static gears (including gillnets, trammel nets, longlines, pots and traps)

It is unlikely that demersal static gears at moderate levels of fishing effort will have a significant effect on the long-term natural distribution of *Sabellaria* reefs, or on the structure and function of their associated biological communities. Sensitivity of *Sabellaria* reefs to static gears is low to medium depending on fishing intensity (Hall et al. 2008; Tillin et al. 2010). However, effects at high levels of fishing intensity are uncertain and it is possible in some circumstances that damage to reef structures could exceed their capacity to recover.

The risk to the achievement of the conservation objective is considered to be sufficiently low that no additional management is considered necessary for demersal static gears. However, if monitoring indicates impacts from these gears, it may be necessary to introduce some degree of management in the future.

Demersal static gears are considered unlikely to have a significant effect on the long term natural distribution of sandbanks, or on the structure and function of their associated biological communities at any level.

The risk to the achievement of the conservation objective is considered to be sufficiently low that no additional management is considered necessary for demersal static gears. However, if monitoring indicates impacts from these gears, it may be necessary to introduce some degree of management in the future.

4.3 Other Human activities

The information within this section represents current knowledge of the nature and extent of activities taking place within or close to the sites.

North Norfolk Sandbanks and Saturn Reef

A considerable number of oil and gas developments overlap within this MPA, including many fields, pipelines, wells and surface and subsurface infrastructure. Two areas licensed for aggregate extraction overlap with this MPA. There are two areas of aggregate extraction activity and two dredge disposal sites located within the MPA boundary. A number of navigational aids are located within the MPA demarking the location of the sandbanks. Existing licensed activities that take place or may take place in the future within the North Norfolk Sandbanks and Saturn Reef SCI will continue

to be managed in line with relevant legislation and application processes by the competent authorities.

Low level shipping activity takes place within the MPA, and the North East region RYA cruising route crosses through the site. However, considering the location of the MPA it is unlikely that this activity will include anchoring. Under international law, ships have a rite of passage at sea including in areas designated as MPAs (unless management specifies the restriction of ship transiting as outlined through an International Maritime Organisation measure). The pressures associated with shipping activity within the North Norfolk Sandbanks and Saturn Reef SCI are not considered likely to impact the protected features of the site.

Haisborough, Hammond and Winterton

A considerable number of oil and gas developments overlap the Haisborough, Hammond and Winterton MPA, including many fields, pipelines, wells and associated infrastructure. Additionally, commercial aggregate extraction takes place along the site boundary. Whilst none of the licence areas are co-incidental with designated features, two licence areas and one application area are located within the southern part of the site. Existing licensed activities that take place within Haisborough, Hammond and Winterton MPA will continue to be managed in line with relevant legislation and application processes by the competent authorities.

Telecommunications cables pass through the site. Cables are largely an unregulated activity in offshore waters depending upon the type of cable being laid (or maintained), where it is being laid between and whether the cable is part of a larger development (which may be regulated).

A moderate level of commercial and recreational shipping activity takes place within the site, which involves vessels transiting the site. Due to the location of the MPA, it is unlikely that vessels anchor within the site. Under international law, ships have a rite of passage at sea including in areas designated as MPAs. The pressures associated with shipping activity within Haisborough, Hammond and Winterton SCI are not considered likely to impact the protected features of the site.

5. Fleet activity in the area and in the region, distribution of fleets (by nation, gear and species) and information on target and bycatch species over 4 years from 2010 to 2013 inclusive.

5.1 Validity of data

In this section relevant fleet statistics for the years 2010-2013 are provided as requested by the European Commission guidance. The UK, as the initiating Member State, analysed fishing from all

Member States active in the areas of the North Norfolk Sandbanks and Saturn Reef site and the Haisborough, Hammond and Winterton site over a four year period. This approach is consistent with other management proposal methodology across Member States. A four year dataset is considered to be representative of the contemporary fisheries carried out in the area and thus valid for the purposes of underpinning the current proposal.

Overall, the fisheries have been changing since the early 2000s as a result of changes in economic and regulatory conditions, e.g. fuel prices and engine efficiencies, the introduction of individual transferable quota (ITQ) systems[4] in various forms. Fishing fleets have been reduced in terms of the number of vessels and fishing effort has decreased. Fishing opportunities are dictated by stock status, market conditions, fuel process and technological opportunities as well as quota availability. In addition, policy decisions on alternative use of marine habitat, sustainable exploration and environmental policies will influence fishing opportunities.

The fisheries are dynamic and sound judgement is required when using the data. However, more recent datasets are expected to improve our understanding of the structure of the fisheries.

Vessels from eight Member States have been present within the relevant areas according to VMS reports or "pings". However, French vessels routinely report every hour and not every two hours like all other Member States' vessels. The data concerning the number of French vessels will be accurate but their activity through pings may appear distorted. To maintain consistency across all vessels and Member States' data, the information on French vessels has been displayed how it was received into the MMO FMC, therefore it has not been altered to reflect possible one hour vessel pings as this could alter the validity of the data further. To establish which vessels specifically report at a higher level would require additional processing and information.

To note, unknown gear classification relates to a specific VMS report which does not have valid corresponding log book information.

5.1.1 Data analysis

Data presented has been analysed by applying the standard methodology used to identify whether or not vessels have been fishing in a specified spatial area. VMS reports ("pings" were used to indicate vessel fishing activity based on the speed of the vessel as contained within the VMS report.

[4] Individual transferable quotas (ITQs) are a type of catch share system, which is a tool used by some governments to manage fisheries

Each ping was classified as indicative of fishing activity if the speed is greater than or equal to zero knots and less than or equal to six knots[5].

Each speed filtered VMS ping (0-6kts) received from a vessel in ICES statistical rectangles 34F1, 34F2, 35F1, 35F2, 36F1 and 36F2 was extracted from the UK VMS system. Each ping will hold the following information: the vessel identity (CFR) number; position and speed; and the date and time of that ping. The fishing pings from the rectangles concerned are then processed in GIS software to identify whether the position was inside or outside the SCIs or the proposed management areas. This provides a proportion of pings falling within the area for the vessels of each Member State.

This proportion was then applied to landings data to allow estimates of landings value and quantity derived from within the SCIs or proposed management areas. Landings values and quantities for UK vessels were derived from UK statistical data held by the MMO. Landings values and quantities for non-UK vessels were derived from the Scientific, Technical and Economic Committee for Fisheries (STECF))[6] and from a Defra coordinated data call.

5.1.2 Data limitations

The data provided in this section is subject to several limitations:

1. Data are only available from vessels that are required to carry VMS systems (i.e. vessels 15 metres and above in length). As such their pattern of activity may differ from vessels of less than 15 metres in length.

2. The speed thresholds (0-6 knots) used to make assumptions as to whether a vessel is fishing or not only provide indications, not definitive proof of fishing and may not be equally valid for all gear types.

3. The proportion of activity inside an area is based on the number of pings as opposed to actual fishing time.

5.2 Fleet activity by state

From 2010 to 2013 vessels from eight Member States were active within and around the North Norfolk Sandbanks and Saturn Reef SCI (see table 1). Of these, the most significant activity was from UK and Dutch vessels, with low levels of activity from all other Member State vessels (see table 1).

[5] Article 50 of Council Regulation (EC) No 1224/2009 : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:343:0001:0050:EN:PDF

[6] http://stecf.jrc.ec.europa.eu/index.html

Table 1: Number of vessels and pings (0-6knots) associated with the North Norfolk Sandbanks and Saturn Reef SCI by year and Member State.

Nationality		2010	2011	2012	2013
		Total	Total	Total	Total
BEL	Number of vessels	6	3	5	7
	Number of pings	53	13	93	123
DEU	Number of vessels	2	1	0	3
	Number of pings	4	5	0	39
DNK	Number of vessels	10	7	1	4
	Number of pings	24	58	7	11
FRA*	Number of vessels	0	3	5	1
	Number of pings	0	9	8	1
NLD	Number of vessels	31	31	29	38
	Number of pings	2912	3043	2544	3399
NOR	Number of vessels	0	0	0	2
	Number of pings	0	0	0	8
SWE	Number of vessels	1	3	0	0
	Number of pings	9	48	0	0
UK	Number of vessels	22	20	23	27
	Number of Pings	352	880	950	1174
Grand Total	Number of vessels	72	68	63	82
	Number of pings	3354	4056	3602	4755

*French data at site level. All other Member States data is presented at ICES rectangle level as this is how it was received from other Member States. French VMS reporting is on average hourly, all other Member States' reporting is on average two hourly.

Haisborough, Hammond and Winterton SCI

From 2010 to 2013 vessels from seven Member States were active within and around the Haisborough Hammond and Winterton SCI (see table 2). Of these, the most significant activity was

from Dutch vessels, with lower levels of activity from UK vessels (see table 2) and much lower from other Member States.

Table 2: **Number of vessels and pings (0-6knots) associated with Haisborough, Hammond and Winterton SCI by year and Member State.**

Nationality		2010	2011	2012	2013
		Total	Total	Total	Total
BEL	Number of vessels	6	4	6	4
	Number of pings	160	4	41	120
DEU	Number of vessels	0	0	0	1
	Number of pings	0	0	0	17
DNK	Number of vessels	5	3	1	0
	Number of pings	92	7	1	0
FRA*	Number of vessels	2	5	9	8
	Number of pings	3	14	13	20
NLD	Number of vessels	22	23	17	17
	Number of pings	1909	1961	1795	1200
NOR	Number of vessels	0	0	1	0
	Number of pings	0	0	1	0
UK	Number of vessels	33	39	42	40
	Number of pings	91	111	125	200
Grand Total	Number of vessels	68	74	76	70
	Number of pings	2255	2097	1976	1558

*French data at site level. All other Member States data is presented at ICES rectangle level as this is how it was received from other Member States. French VMS reporting is on average hourly, all other Member States' reporting is on average two hourly.

5.3 Fleet activity by gear (fishing days, effort)

5.4 Landings values

North Norfolk Sandbanks and Saturn Reef SCI

As shown in Tables 3 and 4 the gear groups of major importance for North Norfolk Sandbanks and Saturn Reef SCI in terms of quantity and value of landings include (1) beam trawls directed at demersal fish (flatfish), (2) otter board bottom trawls for demersal fish, (3) otter board bottom trawls for demersal and semi pelagic fish. Fishing for these species occurs throughout the mid and southern North Sea.

Table 3: Landings (tonnes) from vessels operating in North Norfolk Sandbanks and Saturn Reef SCI by gear type, year and Member State

Commented [m1]: Subject to change – stats may be updated if new information becomes available

Member State	Gear type	Landings (tonnes) in ICES rectangles 35F1, 35F2, 36F1 & 36F2			
		2010	2011	2012	2013
BEL	Otter Trawls (Bottom)	41.85	17.69	71.73	7.52
	Scottish Seines	25.62	19.40	44.79	11.54
	Beam Trawls	266.56	473.40	394.13	284.13
	Total:	**334.02**	**510.49**	**510.65**	**303.19**
DEU	Beam trawls	62.39	114.47	38.04	38.32
	Bottom trawls	105.60	118.91	67.88	63.15
	Pelagic trawls	0.00	0.00	0.00	0.00
	Total:	**167.99**	**233.37**	**105.92**	**101.47**
DNK	Bottom trawls	1392.86	1505.00	20.00	1565.00
	Nets	0.58	0.06	0.00	0.46
	Pelagic trawls	11790.00	3330.06	630.00	5.00
	Total:	**13183.43**	**3330.06**	**650.00**	**1570.46**
IRE (Site level)	Pots	0.00	0.00	0.25	0.00
	Site level total:	**0.00**	**0.00**	**0.25**	**0.00**
*FRA (Site level)	Anchored seine	0.00	18.44	7.21	0.00
	Bottom trawls	0.00	98.16	83.05	21.39
	Nets	0.00	0.54	0.33	2.74
	Pelagic trawls	0.00	78.77	162.05	39.32
	Site level yotal:	**0.00**	**195.92**	**252.64**	**63.45**
NLD – Awaiting Data					
	Total:				
SWE	Otter Trawls (Bottom)	0.00	130.00	0.00	0.00
	Otter Trawls (mid water)	560.00	0.00	215.00	0.00
	Total:	**560.00**	**130.00**	**215.00**	**0.00**

Commented [VM2]: Dutch data missing - working with the Dutch to rectify.

UK	Dredges	0.00	0.00	3.00	0.00
	Gill nets and entangling nets	1.00	0.00	5.00	0.00
	Harvesting machines	2.00	13.00	4.00	0.00
	Hooks and lines	38.00	19.00	3.00	10.00
	Miscellaneous gear	0.00	0.00	0.00	2.00
	Seine nets	0.00	0.00	0.00	2.00
	Traps	767.00	779.00	1388.00	1714.00
	Trawls	558.00	1841.00	1024.00	928.00
	Total:	**1392.00**	**2653.00**	**2427.00**	**2657.00**

*French data at site level. All other Member States' data is presented at ICES rectangle level as this is how it was received from other Member States. French VMS reporting is on average hourly, all other Member States' reporting is on average two hourly.

Member State	Gear Type	Landings (tonnes) in ICES rectangles 34F2			
		2010	2011	2012	2013
BEL	Otter Trawls (bottom)	0.00	0.00	0.94	0.00
	Scottish Seines	6.051	1.8		11.165
	Beam Trawls	180.446	128.098	48.104	260.238
	34F2 Total:	**186.50**	**129.90**	**49.04**	**271.40**
DEU	Beam trawls	0.00	0.469	0.00	12.075
	Bottom trawls	4.385	0.525	0.00	0.00
	Nets	0.547	0.359	2.5	0.00
	34F2 Total:	**4.93**	**1.35**	**2.50**	**12.08**
DNK	Bottom trawls	0.00	535.00	0.00	360.00
	Nets	3.15	8.43	0.00	0.24
	Pelagic trawls	2310.00	814.00	0.00	278.40
	34F2 Total:	**0.00**	**0.00**	**0.00**	**0.00**

Commented [m3]: **To note**: A very small section (a slither) of North Norfolk SAC falls in ICES rectangle 34F2, and only a fraction of the data is relevant to the site.

Table 4: Landings values (£) from vessels operating in North Norfolk Sandbanks and Saturn Reef SCI by gear type, year and Member States

Commented [m4]: Subject to change - stats may be updated if new information becomes available

Member State	Gear type	Landings values in ICES rectangles 35F1, 35F2, 36F1 & 36F2			
		2010	2011	2012	2013
BEL	Otter Trawls (bottom)	£82,870.97	£52,952.39	£149,534.40	£18,928.38
	Scottish Seines	£32,905.15	£32,644.10	£69,953.82	£15,364.63
	Beam trawls	£499,802.28	£817,197.28	£609,976.90	£521,293.06
	Total:	£615,578.39	£902,793.77	£829,465.11	**£555,586.07**
DEU	Beam trawls	£143,992.52	£209,188.62	£73,261.50	£78,724.37
	Bottom trawls	£174,622.01	£92,046.75	£142,360.83	£111,311.24
	Pelagic trawls	£0.00	£0.00	£0.00	£0.00
	Total:	**£318,614.53**	**£301,235.37**	**£215,622.32**	**£190,035.60**
DNK	Bottom trawls	£244,765.29	£229,342.06	£3,870.49	£296,617.40
	Nets	£2,883.77	£560.54	£0.00	£1,887.20
	Pelagic trawls	£1,824,256.81	£284,460.21	£124,498.28	£836.87
	Total:	**£2,071,905.88**	**£514,362.82**	**£128,368.77**	**£299,341.48**
IRE	Pots	£0.00	£0.00	£335.30	£0.00
	Total:	£0.00	£0.00	£335.30	£0.00
*FRA	Nets	£0.00	£1,438.68	£1,313.52	£9,735.56
	Bottom trawls	£0.00	£94,210.03	£72,430.32	£18,381.83
	Anchored seines	£0.00	£38,453.21	£20,809.50	£0.00
	Pelagic trawls	£0.00	£75,186.52	£137,318.16	£33,802.71
	Total:	**£0.00**	**£209,288.45**	**£231,871.49**	**£61,920.10**
NLD – Awaiting Data					
SWE	Otter Trawls (bottom)	£0.00	£19,532.06	£0.00	£0.00
	Otter Trawls (mid water)	£105,172.62	£0.00	£43,571.51	£0.00

Commented [VM5]: Dutch data still to be received – UK working with the Dutch to rectify this

	Total:	**£105,172.62**	**£19,532.06**	**£43,571.51**	**£0.00**
UK	**Dredges**	£0.00	£0.00	£4,888	£168
	Gill nets and entangling nets	£2,640	£908	£8,131	£0.00
	Harvesting machines	£2,992	£27,716	£7,977	£0.00
	Hooks and lines	£89,506	£47,491	£5,827	£21,544
	Miscellaneous gear	£0.00	£0.00	£0.00	£838
	Seine nets	£76,985	£0.00	£275	£2,822
	Traps	£1,217,049	£1,272,495	£1,745,677	£1,850,021
	Trawls	£1,291,536	£1,640,457	£661,419	£2,487,530
	Total:	**£2,680,708**	**£2,989,068**	**£2,434,195**	**£4,362,924**

*French data at site level. All other Member States' data presented at ICES rectangle level as this is how it was received from other Member States. French VMS reporting is on average hourly, all other Member States' reporting is on average two hourly.

Member State	**Gear Type**	**Landings (£) in ICES erctangles 34F2**			
		2010	**2011**	**2012**	**2013**
BEL	**Otter Trawl (bottom)**	£0.00	£0.00	£1,760.41	£0.00
	Scottish Seines	£5,963.05	£3,831.93	£0.00	£12,310.48
	Beam Trawl	£540,978.72	£453,890.74	£133,925.38	£726,173.62
	34F2 Total:	**£546,941.77**	**£457,722.68**	**£135,685.79**	**£738,484.10**
DEU	**Beam trawls**	£0.00	£1,173.19	£0.00	£33,645.09
	Bottom trawls	£4,978.76	£357.62	£0.00	£0.00
	Nets	£3,654.48	£1,943.07	£10,994.22	£0.00
	34F2 Total:	**£8,633.25**	**£3,473.88**	**£10,994.22**	**£33,645.09**
DNK	**Bottom trawls**	£0.00	£96,410.43	£0.00	£46,143.77
	Nets	£17,829.31	£44,657.12	£0.00	£975.93
	Pelagic trawls	£265,043.20	£146,153.42	£0.00	£36,959.02
	34F2 Total:	**£282,872.51**	**£287,220.97**	**£0.00**	**£84,078.71**

Commented [m6]: **To note**: A very small section (a slither) of North Norfolk SAC falls in ICES rectangle 34F2, and only a fraction of the data is relevant to the site.

Haisborough, Hammond and Winterton SCI

Tables 5 and 6 show the gear groups of major importance for Haisborough, Hammond and Winterton SCI in terms of quantity and value of landings include (1) beam trawls directed at demersal fish (flatfish), (2) otter board bottom trawls for demersal fish, (3) otter board bottom

trawls for demersal and semi pelagic fish. Fishing for these species occurs throughout the mid and southern North Sea.

Table 5: Landings (tonnes) from vessels operating in Haisborough Hammond and Winterton SCI by gear type, year and Member State

Commented [m7]: Subject to change - stats may be updated if new information becomes available

Member State	Gear type	Landings (tonnes) in ICES rectangles 34F1 & 34F2			
		2010	2011	2012	2013
BEL	Otter trawls (obttom)	0.00	0.00	1.36	0.00
	Scottish Seines	6.051	1.8	0.00	11.165
	Beam trawls	209.038	139.206	52.319	269.275
	Total:	215.09	141.01	53.68	280.44
DEU	Beam trawls	0.00	0469	0.00	12.075
	Bottom trawls	4.385	0.525	0.00	0.00
	Nets	0.547	0.359	2.5	0.00
	Total:	4.93	1.35	2.50	12.08
DNK	Bottom trawls	0.00	535.00	0.00	360.00
	Nets	3.15	8.43	0.00	0.24
	Pelagic trawls	2310.00	814.00	0.00	278.40
	Total:	**2313.15**	**1357.43**	**0.00**	**638.64**
*FRA (Site level)	Nets	0	2.57149	0	0.18605
	Bottom trawls	0	0.2874	21.56368	10.09088
	Anchored seines	0	0.18633	0	0
	Pelagic trawls	0	0.2428	0.37896	3.68916
	site level total:	0	3.28802	21.94264	13.96609
NLD – Awaiting Data					

Commented [VM8]: Awaiting data from NLD – UK working with Dutch colleagues to rectify

	Total:				
UK	**Gill nets and entangle nets**	22	21	35	27
	Harvesting machines	2	2404	0	0
	Hooks and line	51	26	9	14
	Miscellaneous gear	33	125	5	2
	Seine nets	2	0	0	0
	Traps	434	551	1028	1581
	Trawls	75	630	65	470
	Total:	**618**	**3756**	**1142**	**2094**

*French data at site level. All other Member States' data presented at ICES rectangle level as this is how it was received from other Member States. French VMS reporting is on average hourly, all other Member States' reporting is on average two hourly.

Table 6: Landings values (£) from vessels operating in Haisborough Hammond and Winterton SCI by gear type, year and Member State

Commented [m9]: Subject to change - stats may be updated if new information becomes available

Member State	Gear type	Activity in ICES rectangles 34F1 & 34F2			
		2010	2011	2012	2013
BEL	Otter trawls (bottom)	£0.00	£0.00	£2,658.25	£0.00
	Scottish Seines	£5,963.05	£3,831.93	£0.00	£12,310.48
	Beam Trawls	£664,840.34	£500,481.98	£147,989.41	£750,994.45
	Total:	£670,803.39	£504,313.91	£150,647.66	£739,424.07
DEU	Beam trawls	£0.00	£1,173.193	£0.00	£33,645.09
	Bottom trawls	£4,978.76	£357.62	£0.00	£0.00
	Nets	£3,654.48	£1,943.07	£10,994.22	£0.00
	Total:	£8,633.24	£3,473.88	£10,994.22	£33,645.09
DNK	Bottom trawls	£0.00	£96,410.43	£0.00	£46,143.77
	Nets	£17,829.31	£44,657.12	£0.00	£975.93
	Pelagic trawls	£265,043.20	£146,153.42	£0.00	£36,959.02
	Total:	£282,872.51	£287,220.97	£0.00	£84,078.71
*FRA (site level)	Nets	£0.00	£9,144.35	£0.00	£165.01
	Bottom trawls	£0.00	£208.49	£24,717.57	£6,846.20
	Anchored seines	£0.00	£243.38	£0.00	£0.00
	Pelagic trawls	£0.00	£233.50	£199.66	£3,906.82
	34F1&2 Total:	£0.00	£9,829.71	£24,917.23	£10,918.03
NLD					
UK	Gill nets and entangling nets	£22,028.00	£24,399.00	£39,260.00	£30,799.00
	Harvesting machines	£2,992.00	£3,200.00	£0.00	£0.00
	Hooks and lines	£115,435.00	£64,902.00	£20,744.00	£30,916.00

Commented [VM10]: Awaiting NLD data. UK working with Dutch colleagues to rectify

	Miscellaneous gear	£3,218.00	£7,123.00	£2,975.00	£838.00
	Seine nets	£2,079.00	£0.00	£59.00	£0.00
	Traps	£623,828.00	£928,907.00	£1,163,387	£1,639,577
	Trawls	£56,689	£398,947	£171,089	£1,132,635
	34F1, 34F2, 35F1 & 35F2 Total:	**£826,209**	**£1,427,479**	**£1,397,515**	**£2,864,765**

*French data at site level. All other Member States' data presented at ICES rectangle level as this is how it was received from other Member States. French VMS reporting is on average hourly, all other Member States' reporting is on average two hourly

5.5 Annual variation in fishing activity

North Norfolk Sandbanks and Saturn Reef SCI

Over the years analysed (2010-2013), the total number of vessels fishing in the North Norfolk Sandbanks and Saturn Reef SCI were 92 from the UK and 193 from other Member States, making a total of 285 (vessels over 15metres). Vessels have been counted more than once if they enter the SCI in separate years. See Table 1 for a breakdown per year.

Norwegian (observed in 2013 only), French, Swedish and German vessels were rarely observed in this site with less than ten vessels recorded per year each and absent some years. Danish and Belgian vessels are regularly recorded in the site but at low vessel numbers and activity from these is considered to be low.

The majority of the vessel activity was from the Dutch and UK fleets. Numbers of Dutch vessels in the site were stable throughout the years analysed at between 29 and 38 vessels. Dutch vessels also had the highest number of pings recorded from any Member State.

The UK (15metre and over) activity varies between 63 and 82 vessels per year operating in the site over the years analysed. Despite the high vessel numbers from the UK fleet, the number of pings was much lower than from Dutch vessels. 2013 showed a peak in both UK and Dutch vessel numbers and number of pings.

Fishing effort is indicated by the number of VMS reports at speeds indicative of fishing (0 to 6 knots) received by the MMO FMC. Reports are sent by every fishing vessel at. On average, two hourly intervals, with the exception of the French, which report, on average, hourly.

Overall fishing effort within the SCI is considered to be high with the majority of this activity from Dutch vessels which peaked at 3399 pings in 2013. UK fishing effort is also considered to be high for this site peaking at 1174 in 2013. All other vessels in the area travelling between 0-6knots have low numbers of pings with only Belgian vessels showing regular but also low activity peaking at 123 pings in 2013.

The landings values (£) and quantities (tonnes) from within the SCI vary between each Member State. UK landings in 2013 (peak activity year) are 2657 tonnes and £1,850,021. The majority of these landings are attributed to trawls and traps. Traps will not be prohibited as part of this management proposal and will be allowed to continue.

No Dutch data provided for analysis of values and landings on this site.

Commented [VM11]: Dutch data needed to make assessment.

Belgian activity varies in the site over the years analysed. Lowest landings values from the site are £81,074.56 in 2011 with the highest at £857,445.98. The majority of this activity was from Beam Trawls (TBB). This was an estimation based across both ICES rectangles 34F1 and 34F2.

The areas of the site which are to be closed to bottom towed gears, and seines in some areas, have moderate to high numbers of VMS reports from mainly UK and Dutch vessels using bottom towed gears and some seines. There was much less bottom towed gear activity in the area of Saturn Reef.

Haisborough, Hammond and Winterton SCI

Over the years analysed (2010-2013), the total number of vessels fishing in Haisborough, Hammond and Winterton SCI were 154 from the UK and 134 from other Member States, making a total of 288 (vessels over 15metres). Vessels have been counted more than once if they enter the SCI in separate years. See Table 2 for a breakdown per year.

Norwegian, Danish and German vessels were rarely observed in this site and are often absent over the years analysed. French and Belgian vessels were regularly recorded in the site but at low vessel numbers and activity from these are considered to be low. Vessels numbers vary from 2 to 9 a year from France and Belgium.

The majority of the vessel activity was from the UK (over 15m) and Dutch fleets. Numbers of UK vessels in the site was stable throughout the years analysed at between 33 and 40 vessels. The UK also has the highest pings recorded from any Member State. The UK pings gradually declined over the years analysed from 2255pings in 2010 to 1558pings in 2013.

The Dutch activity remained stable over the years analysed at 17 to 23 vessels and showed a gradual decline in ping activity from 1909pings in 2010 to 1200pings in 2013

Fishing effort is indicated by the number of VMS reports at speeds indicative of fishing (from 0 to 6 knots) received by the MMO FMC. Reports are sent by every fishing vessel at 2 hourly intervals, with the exception of the French VMS activity. This was witnessed at an hourly rate.

Fishing effort within the SCI is considered to be moderate to high with the majority of this activity from Dutch vessels operating in the offshore area of the site (12nm miles+) and UK activity throughout the site. There appears to have been a gradual decline in ping activity from both UK and Dutch vessels 2010-2013.

The values (£) and landings (tonnes) effort taken within the SCI vary between each member state. UK landings and values in 2013 (peak £ activity year) was 2094 tonnes and £3,347,875. The majority of these landings were attributed to traps at 1581 tonnes and trawls at 470 tonnes. UK trawling on this site fluctuated over the years analysed from 75 tonnes 2010, 630 tonnes 2011, 65 tonnes 2012 and 470 tonnes in 2013. In 2011 2404 tonnes were attributed to harvesting machines (such as pump scoop dredge) but this was only observed for the one year. The majority of UK landings and values is attributed to traps. Traps will not be prohibited as part of this management proposal and will be allowed to continue.

No Dutch data provided for analysis of values and landings on this site.

Commented [VM12]: Dutch data needed to make assessment.

Belgian activity varies in this site over the years analysed. Lowest landings values from this site are £137,510.23 in 2012 and highest at £739,424.59 in 2013. The majority of this activity was from Beam Trawls (TBB). This was an estimate based across ICES rectangles 34F1 and 34F2.

The areas of the site which are to be closed to bottom towed gears, and seines in some areas, have moderate to high levels of VMS reports from mainly UK and Dutch vessels using bottom contacting gears and some seines. There is lower bottom towed gear activity in areas of known reef. The Northern section of the site is rarely fished. Belgium is the only other Member State that has access to the 6-12nm area of the site. UK and Belgian vessels are both recorded as fishing in this area which already has two closures to bottom towed gears in areas of known reef through an MMO byelaw.

North Norfolk Sandbanks and Saturn Reef and Haisborough, Hammond and Winterton are referred to as European marine sites (EMS) in all VMS activity maps and charts in this document as this is a collective term for sites including Sites of Community interest (SCI) and Special areas of conservation (SAC)

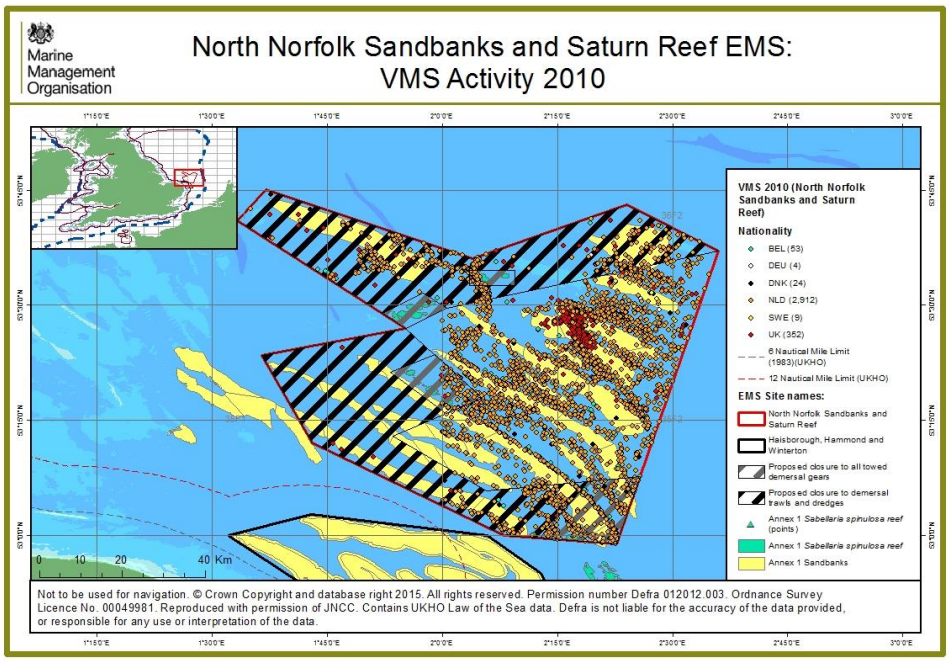


Figure 1: VMS reports indicating all fishing activity in North Norfolk Sandbanks and Saturn Reef EMS 2010 by Nationality

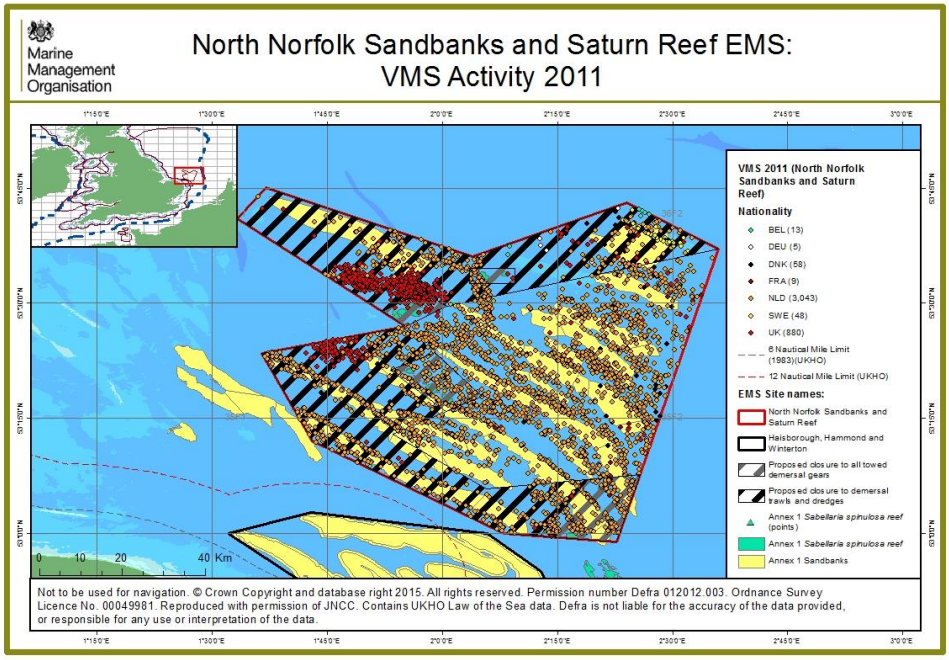


Figure 2: VMS reports indicating all fishing activity in North Norfolk Sandbanks and Saturn Reef EMS 2011 by Nationality

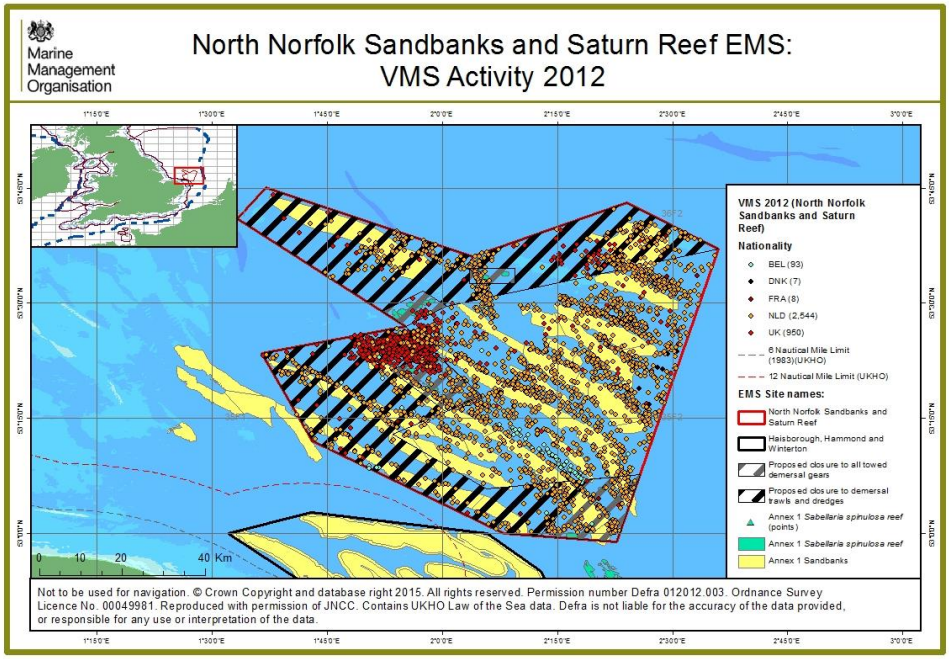


Figure 3: VMS reports indicating all fishing activity in North Norfolk Sandbanks and Saturn Reef EMS 2012 by Nationality

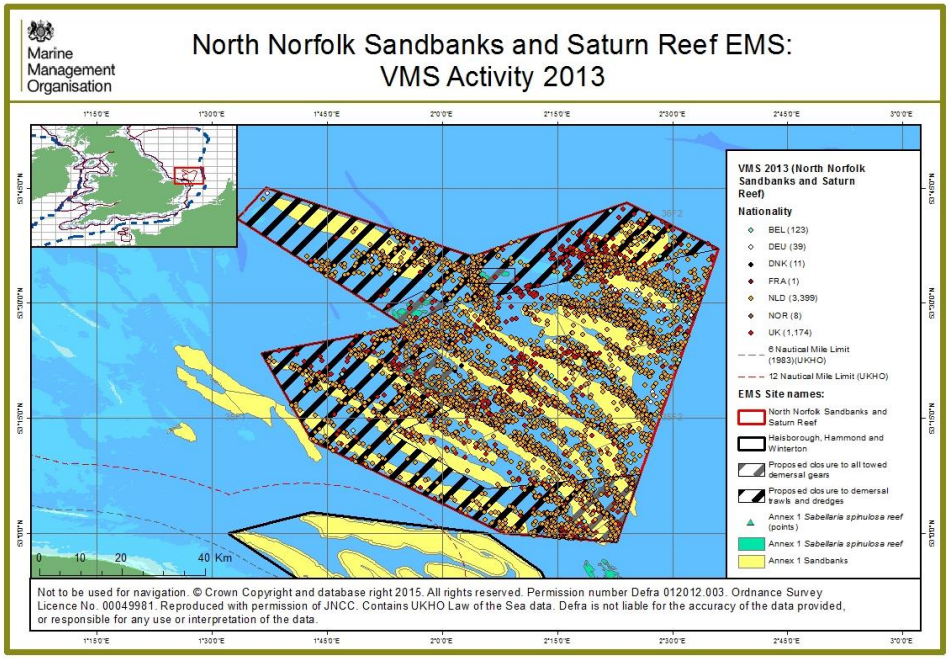


Figure 4: VMS reports indicating all fishing activity in North Norfolk Sandbanks and Saturn Reef EMS 2013 by Nationality

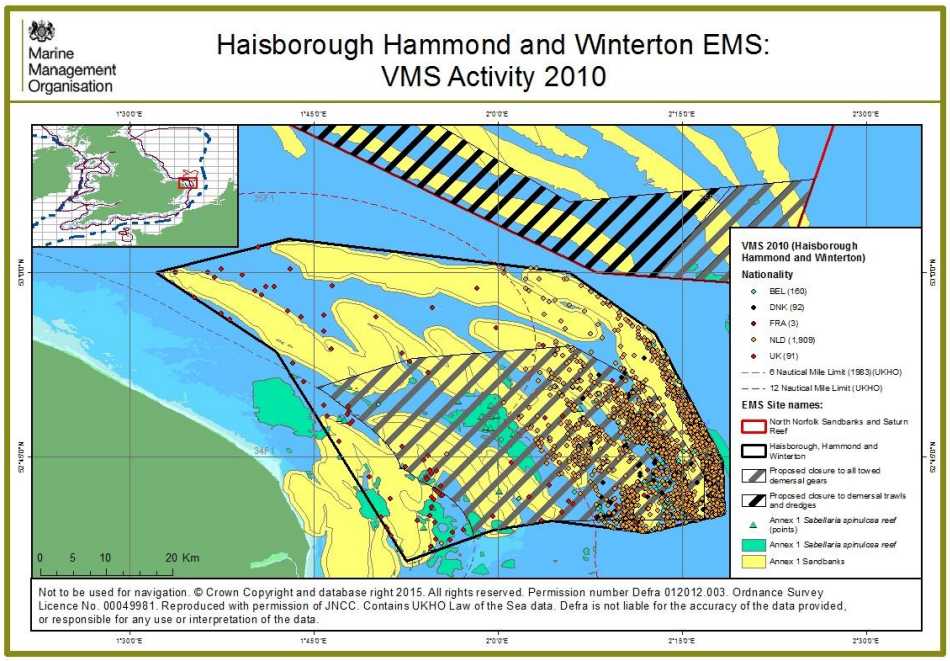


Figure 5: VMS reports indicating all fishing activity in Haisborough, Hammond and Winterton EMS 2010 by Nationality

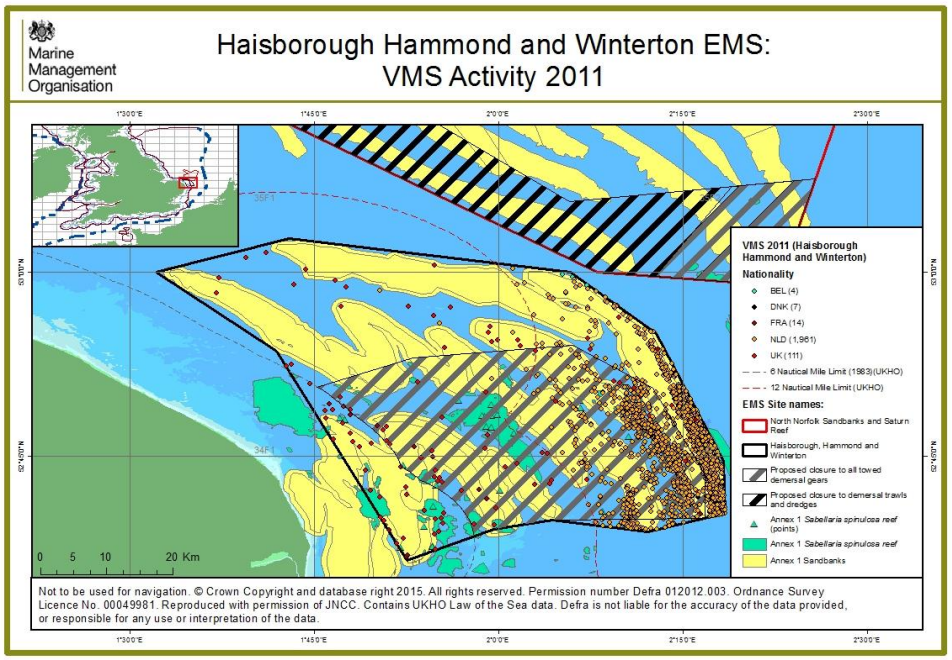


Figure 6: VMS reports indicating all fishing activity in Haisborough Hammond and Winterton EMS 2011 by Nationality

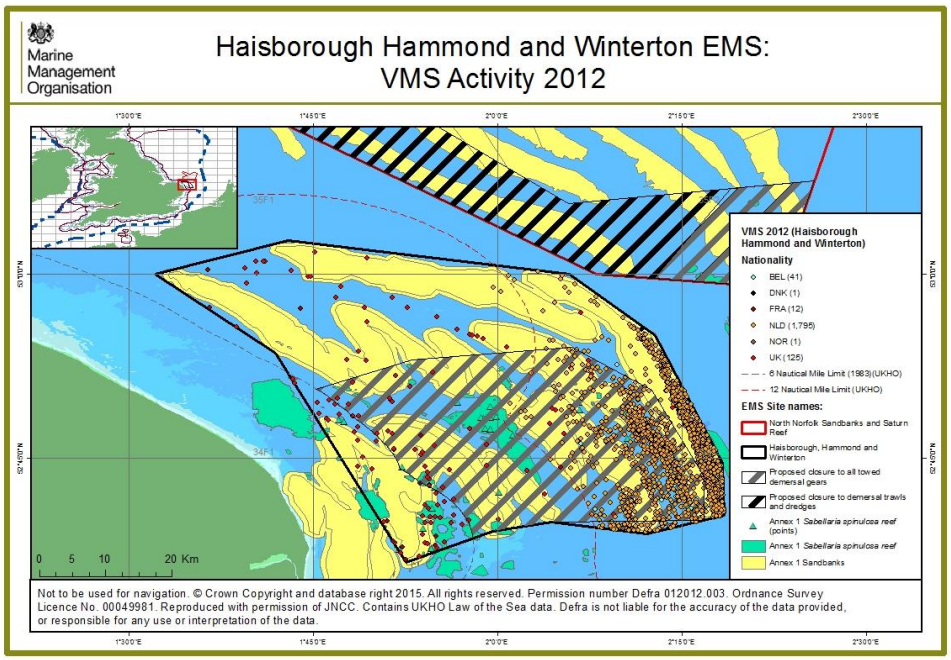


Figure 7: VMS reports indicating all fishing activity in Haisborough Hammond and Winterton EMS 2012 by Nationality

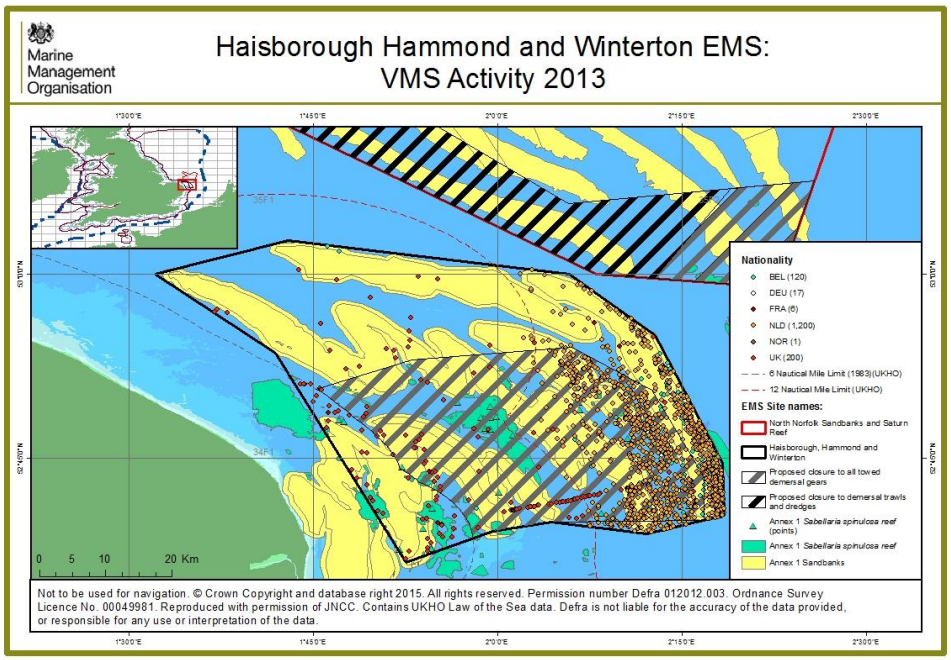
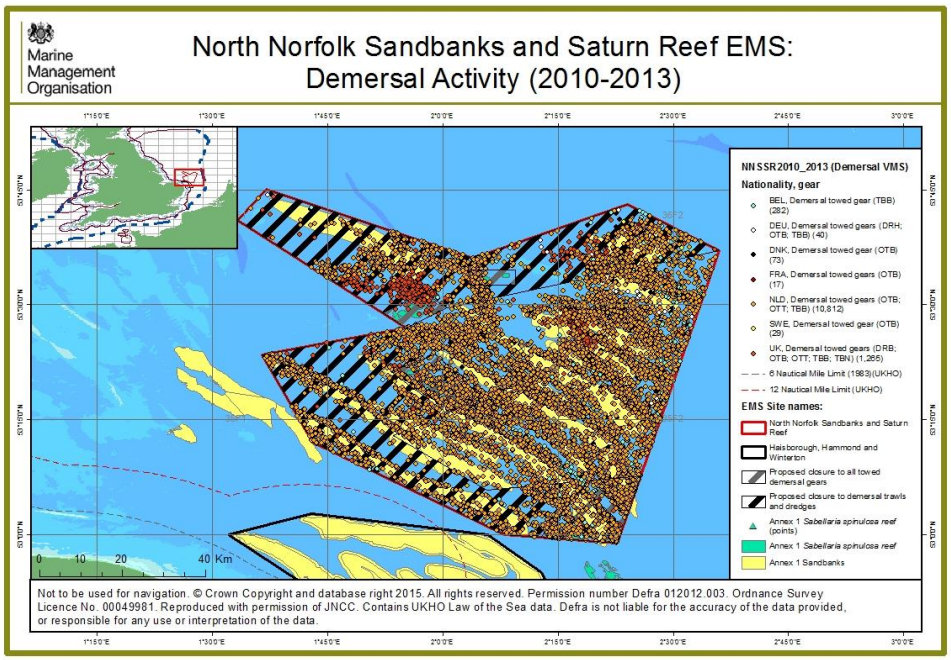


Figure 8: VMS reports indicating all fishing activity in Haisborough Hammond and Winterton EMS 2013 by Nationality

5.6 Fleet activity by gear group – Geographical distribution

In the charts depicted in this section, demersal gears have been classed as all gear types which are to be excluded from the closed area(s) and seines over reef areas as stipulated in the gear tables on pages9 -10. The charts show all demersal and non-demersal gear types for each year and each Member State and where possible, the specific gear type recorded has been included.

Figure 9: VMS reports indicating all Member States (including UK) demersal fishing activity in North Norfolk Sandbanks and Saturn Reef EMS 2010-2013



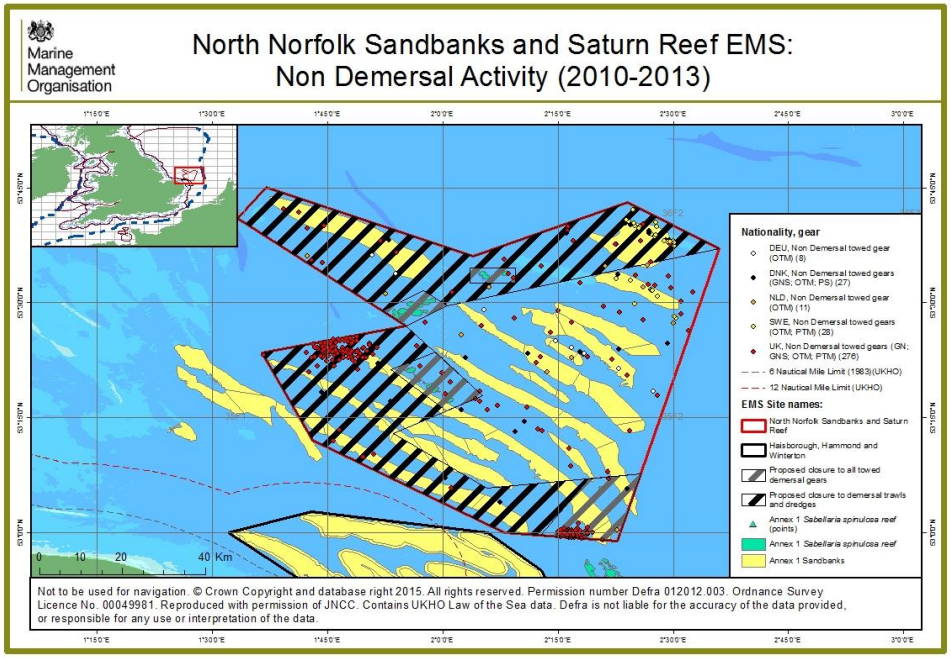


Figure 10: VMS reports indicating all Member States (including UK)non-demersal fishing activity in North Norfolk Sandbanks and Saturn Reef EMS 2010-2013

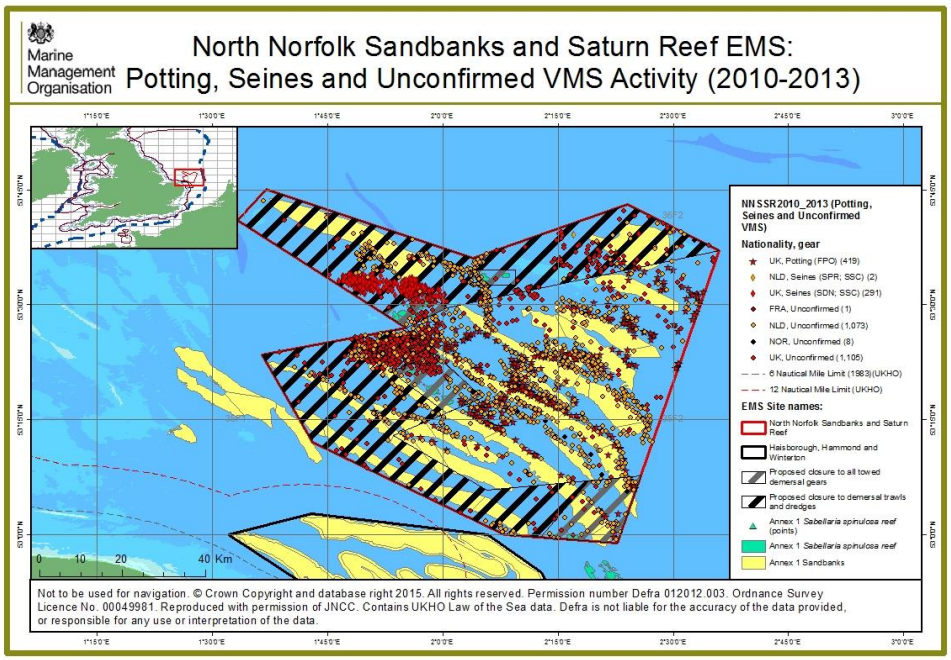


Figure 11: VMS reports indicating all Member States (including UK) potting, seines and unconfirmed gears fishing activity in North Norfolk Sandbanks and Saturn Reef EMS 2010-2013

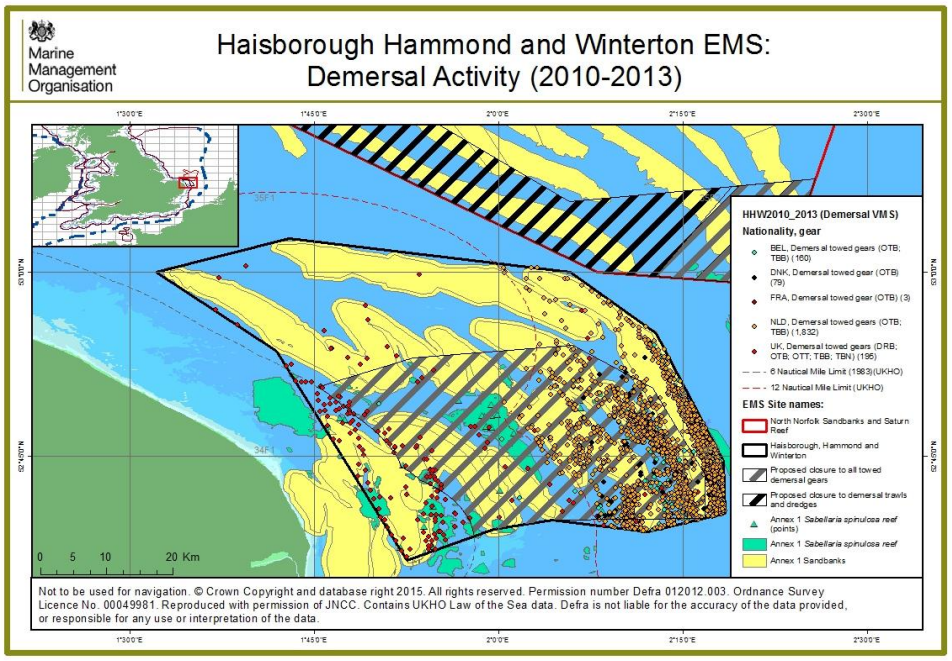


Figure 12: VMS reports indicating all Member States (including UK) demersal fishing activity in Haisborough, Hammond and Winterton EMS 2010-2013

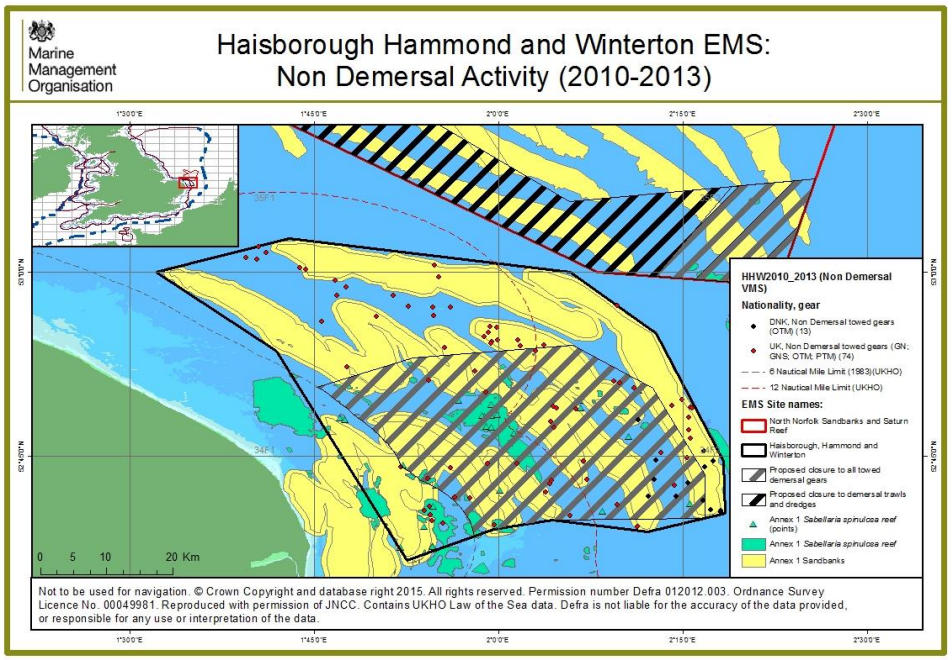


Figure 13: VMS reports indicating all Member States (including UK) non-demersal fishing activity in Haisborough Hammond and Winterton EMS 2010-2013

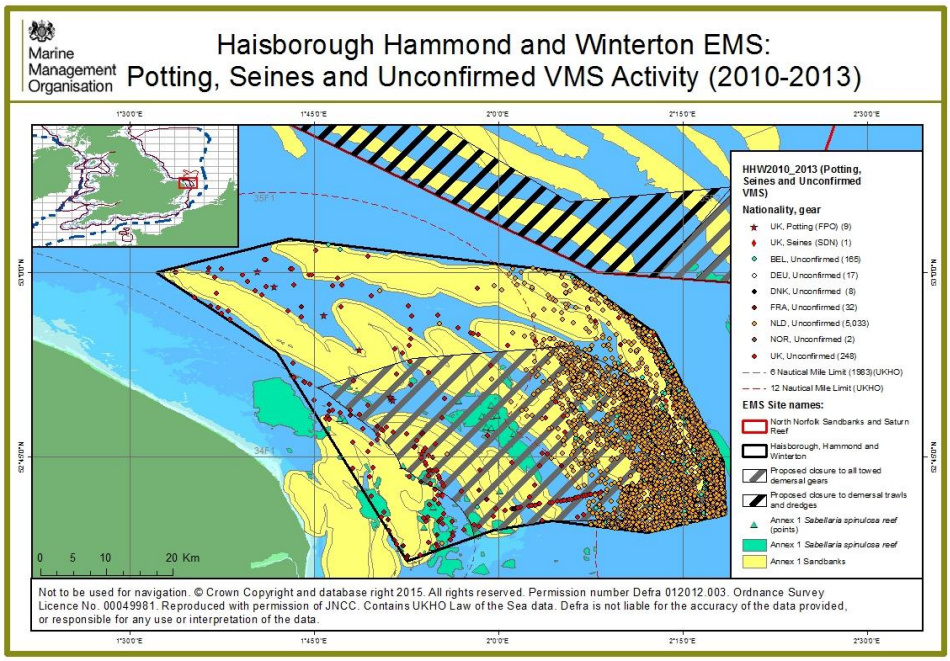


Figure 14: VMS reports indicating all Member States (including UK) potting, seines and unconfirmed gears fishing activity in Haisborough Hammond and Winterton EMS 2010-2013

5.7 By-catch

The flatfish fisheries (beam and bottom otter board trawl) land a number of other species as by-catch (e.g. cod, lemon sole). Where these species are landed these are included in the total gross landing value statistics. Cod, sole and plaice may be by-catch species from the Nephrops fishery. Additional species may also be caught as bycatch but are not landed, and there are no current systematic statistics available for these catch components. With the introduction of Common Fisheries Policy reform, which includes a landing obligation (namely a ban on the discard of certain species by certain vessels/within certain circumstances), it may become possible in the future to collate information on bycatch that could contribute to the overall catch and landings statistics in certain areas. A ban on demersal fish discards was introduced at the end of 2015, following a discard ban on pelagic fish introduced at the end of 2014, with a ban on discarding all other quota species by 2016.[7]

[7] http://ec.europa.eu/fisheries/reform/docs/discards_en.pdf

6 Seasonal trends in fisheries over years 2010 to 2013 inclusive

Chart 6.1: Seasonal fishing activity (all gears) in North Norfolk Sandbanks and Saturn Reef EMS for UK only

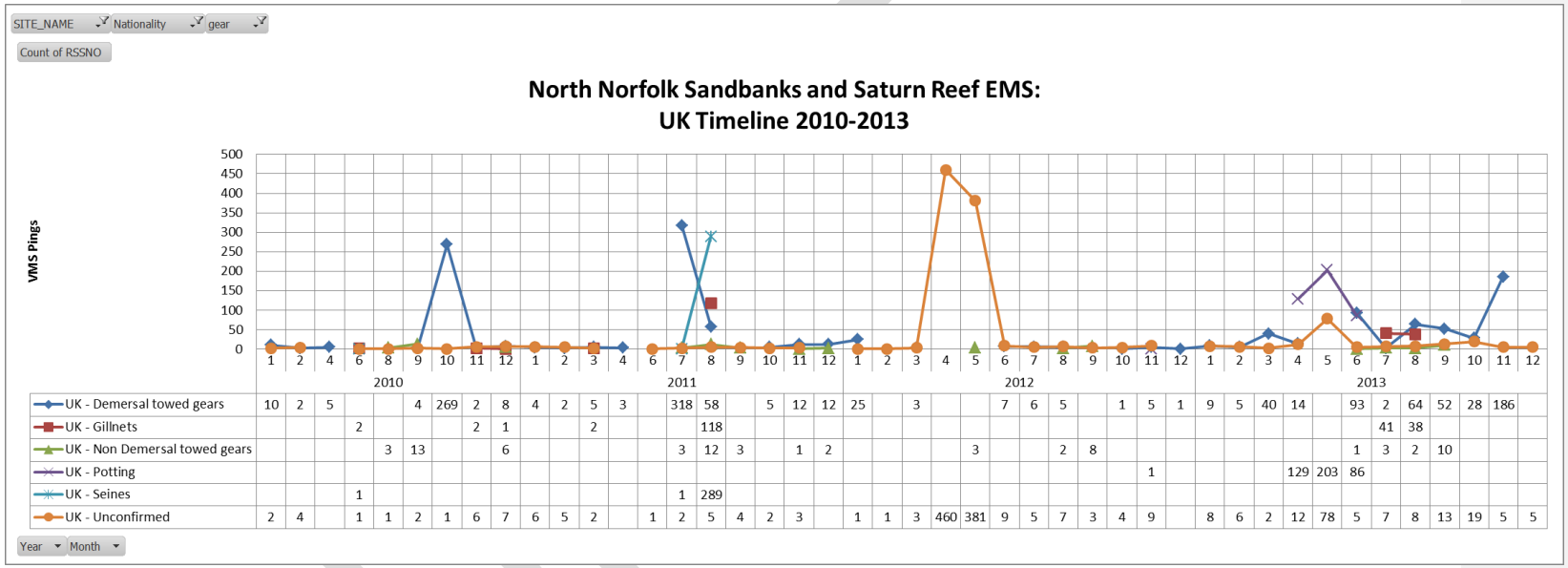
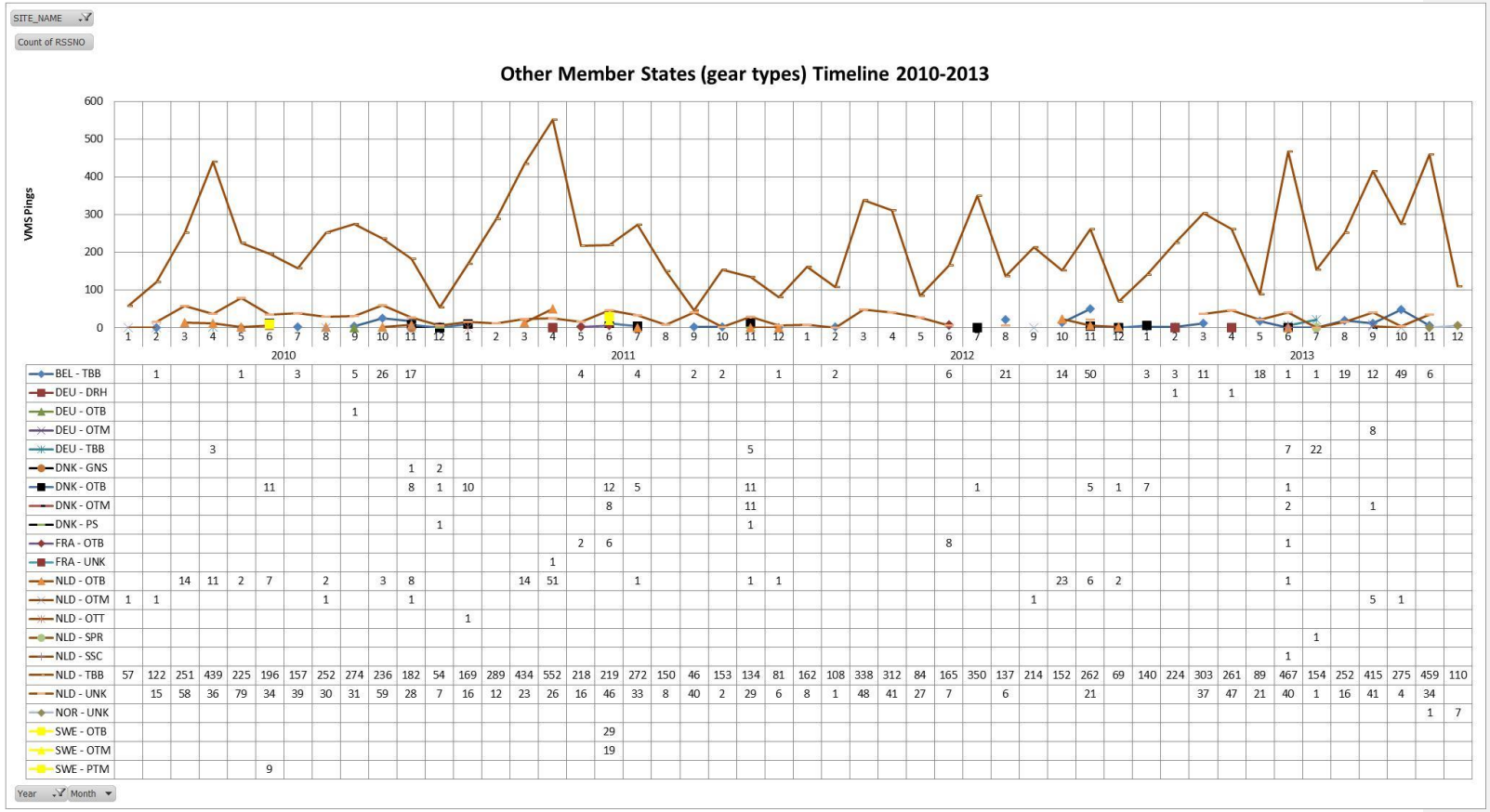


Chart 6.2: Seasonal fishing activity (all gears) in the North Norfolk Sandbanks and Saturn Reef EMS for other Member States



	2010												2011												2012												2013											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
BEL - TBB		1			1		3		5	26	17						4		4		2	2		1		2				6		21		14	50		3	3	11		18	1	1	19	12	49	6	
DEU - DRH																																						1		1								
DEU - OTB									1																																						
DEU - OTM																																													8		
DEU - TBB				3																			5																		7	22				
DNK - GNS											1	2																																		
DNK - OTB						11					8	1	10					12	5				11						1				5	1	7					1					
DNK - OTM																		8					11																		2			1		
DNK - PS												1											1																							
FRA - OTB																	2	6												8											1					
FRA - UNK																1																													
NLD - OTB			14	11	2	7		2		3	8				14	51			1				1	1									23	6	2					1					
NLD - OTM	1	1						1			1																			1													5	1		
NLD - OTT													1																																	
NLD - SPR																																											1				
NLD - SSC																																										1					
NLD - TBB	57	122	251	439	225	196	157	252	274	236	182	54	169	289	434	552	218	219	272	150	46	153	134	81	162	108	338	312	84	165	350	137	214	152	262	69	140	224	303	261	89	467	154	252	415	275	459	110
NLD - UNK		15	58	36	79	34	39	30	31	59	28	7	16	12	23	26	16	46	33	8	40	2	29	6	8	1	48	41	27	7		6			21				37	47	21	40	1	16	41	4	34	
NOR - UNK																																													1	7
SWE - OTB																		29																												
SWE - OTM																		19																												
SWE - PTM						9																																								

Chart 6.3: Seasonal fishing activity (all gears) in Haisborough Hammond and Winterton EMS for UK only

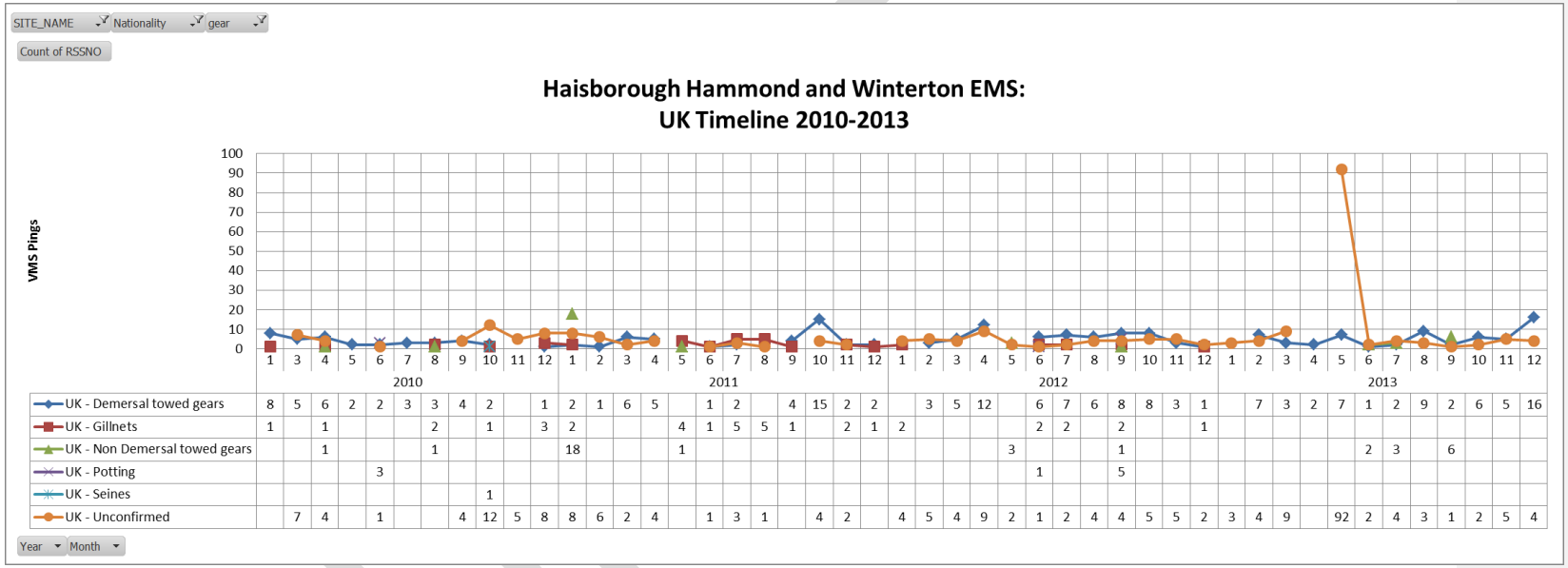
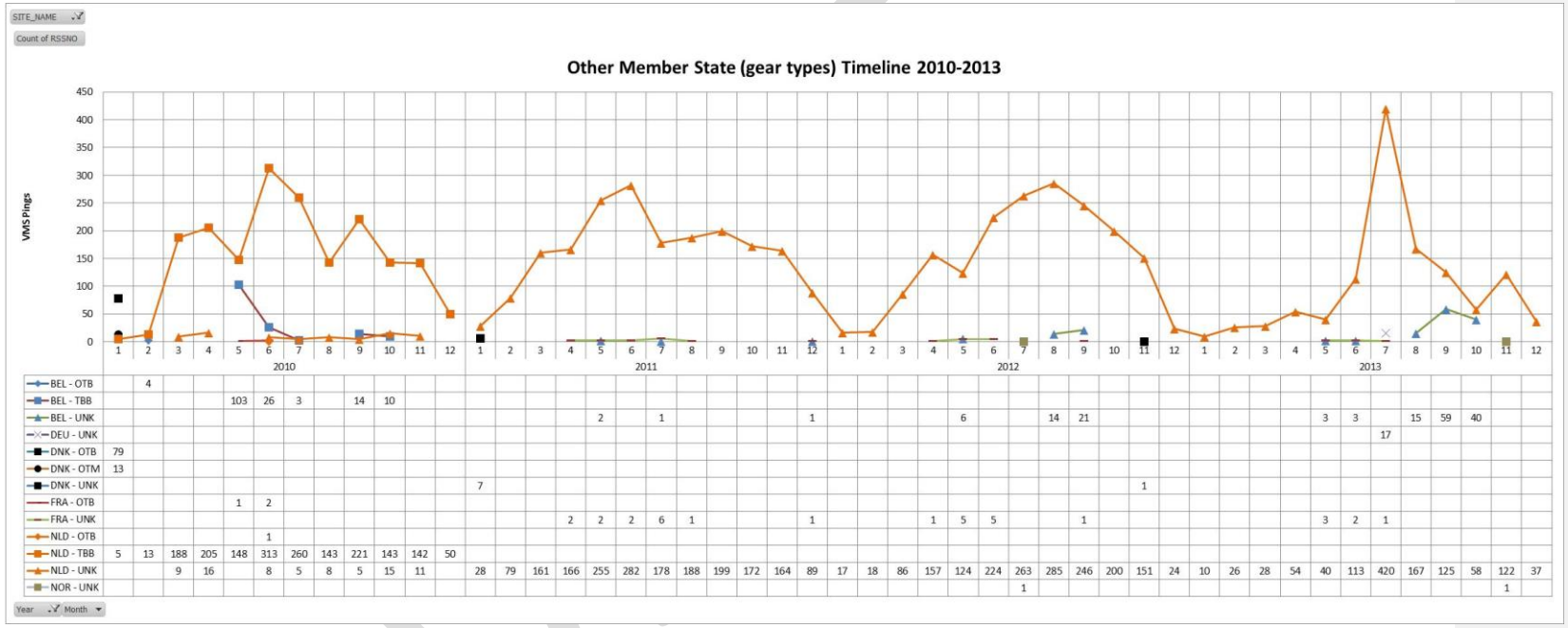


Chart 6.4: Seasonal fishing activity (all gears) in the Haisborough, Hammond and Winterton EMS for other Member States



	2010												2011												2012												2013											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
BEL - OTB		4																																													
BEL - TBB					103	26	3		14	10																																						
BEL - UNK																	2		1				1						6			14	21								3	3		15	59	40		
DEU - UNK																																											17					
DNK - OTB	79																																														
DNK - OTM	13																																														
DNK - UNK													7																						1												
FRA - OTB					1	2																																								
FRA - UNK																2	2	2	6	1			1					1	5	5			1								3	2	1					
NLD - OTB						1																																									
NLD - TBB	5	13	188	205	148	313	260	143	221	143	142	50																																			
NLD - UNK			9	16		8	5	8	5	15	11		28	79	161	166	255	282	178	188	199	172	164	89	17	18	86	157	124	224	263	285	246	200	151	24	10	26	28	54	40	113	420	167	125	58	122	37
NOR - UNK																															1																1	

7 Proposed fisheries management measures to maintain the habitat features in favourable condition. Are they proportionate and enforceable? Other conservation measures that apply to the areas

7.1 Options for fisheries management in the North Norfolk Sandbanks and Saturn Reef SCI and the Haisborough, Hammond and Winterton SCI

A range of management options may be considered, including:

- no additional management required
- reduce/limit pressures
- remove/avoid pressures

Activity	Management options
Demersal mobile gear	**Option 1. No additional management:** This option would pose a risk of not achieving the conservation objectives for **sandbanks which are slightly covered by seawater all the time**. The conservation objective for **reefs** would not be met under this management option.
	Option 2. Reduce/limit pressures: This option would reduce the risk of not achieving the conservation objectives for the **reef** and **sandbanks which are slightly covered by seawater all the time**. Appropriate management of **reef** could include closure on the known extent of the feature within the sites. Areas to be covered by management restrictions would include a buffer zone around the known features to reduce any risk of accidental contact with the features. The risk could be further reduced by restricting access to areas which clearly provide favourable conditions for reef development, based on past presence of reef structures and knowledge of reef ecology. Appropriate management for sandbanks could include closure of a proportion of the feature's area to damaging gears, and there may be a greater requirement for restrictions on gears that penetrate more deeply into the sediment.
	Option 3. Remove/avoid pressures: This option would reduce the risk of not achieving the conservation objectives for sandbanks slightly covered by seawater all the time and reef to the lowest possible levels. Restrictions would be required for all mobile bottom gears within the full extent of the site boundaries.
Demersal static gear	**No additional management**: This option is considered unlikely to pose a risk of not achieving the conservation objectives for sandbanks which are slightly covered by seawater all the time and reefs. However, if monitoring of condition and fishing activity showed evidence of detrimental effects as a result of static gear activity in

the future, additional management may be required.

Reduce/limit pressures: This option would further reduce the risk of not achieving the conservation objectives for the **reef** feature. If fishing activity were to rise to levels at which damage was occurring, appropriate management could include partial closure of the feature and/or limits on the amount of gear that can be deployed.

7.2 Proposed management options

Exclusion of demersal trawls and dredges across the management areas of these SCIs with smaller localised management areas also restricting demersal seine netting over the H1170 reef.

7.3 Other fisheries measures which apply to the sites

There is one MMO byelaw measure within Haisborough, Hammond and Winterton SCI. This byelaw bans the use of bottom towed fishing gear within 2 specified areas[8]. These areas are within the 6-12nm area where there is Belgian historic access. This byelaw was approved in a European Commission decision document in 2013[9]. The MMO will review and revoke this byelaw once the measures presented in this Joint Recommendation are put in place.

8 Control measures envisaged by the Member States, possible ecological and control buffer zones to ensure site protection and/or effective control and monitoring measures

8.1 Measures envisaged by Member States for Control, Enforcement and Compliance

The proposed control, enforcement and compliance regime for North Norfolk Sandbanks and Saturn Reef SCI and the Haisborough, Hammond and Winterton SCI consists of a combination of at sea surveillance (surface and aerial) and remote monitoring of vessel position through the establishment of an alert zone outside of the SCIs; such a regime would be in line with future control and enforcement challenges of the Common Fisheries Policy.

[8] https://www.gov.uk/government/publications/haisborough-hammond-and-winterton-european-marine-site-specified-areas-bottom-towed-fishing-gear-byelaw

[9] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2014:030:0001:0087:EN:PDF

8.1.1 Surface and aerial surveillance

Surface and aerial surveillance of these sites will be continued under the existing surveillance plans for the North Sea. These surveillance plans will coordinate the surface (fisheries protection vessels) and aerial surveillance capacity of the UK.

8.1.2 Increased Reporting Zone

Remote monitoring and surface surveillance will also be put in place, targeting the North Norfolk Sandbanks and Saturn Reef SCI and the Haisborough, Hammond and Winterton SCI in accordance with the MMO's risk-based MPA management plan.

EU fishing vessels over 12m in length are required to report, through satellite, every two hours. Reports can be viewed in real time but this reporting frequency would allow vessels to cross the prohibited area of the SCIs without being identified between the two hourly reporting times. The creation of increased reporting zones located around the management areas of the SCIs would ensure that vessels entries into the management areas could be identified. Vessels will still be allowed to fish in the increased reporting zones outside of the management areas and increased reporting would provide detailed information on vessels locations in proximity to the prohibited fishing zones. Vessels will also be allowed to transit the management areas and the increased reporting would allow the MMO FMC to distinguish between those fishing and those not.

Geofences[10] can be set up, using vessels' VMS devices which would trigger higher frequency reporting if a vessel enters the increased reporting zone. It may be possible to increase the frequency of satellite reporting, although this would be very expensive and the cost would be borne by the fishing vessels.

8.2 Vessel position monitoring

Monitoring of vessel position is integral to the preferred control, enforcement and compliance plan. In order to improve monitoring and compliance, fishing vessels within the management areas of the SCIs and their reporting zones should be required to carry a system capable of:

- Recording high frequency position reports (up to one report per ten minute interval) when within the prohibited area or reporting zones around the SCIs.

[10] A Geofence is a spatial virtual barrier. Programs that incorporate geo-fencing allow an administrator to set up triggers such as increased reporting so when a device enters (or exits) the boundaries defined by the administrator it performs the trigger and if required a text message or email alert.

- Transmitting position reports via GPRS/GSM [11](when available).
- When GPRS/GSM signal is not available: storing positions and forwarding stored reports when the signal is available.
- Transmitting an email and/or text message alert via GPRS/GSM (when signal available) to the vessel's flag state and MMO FMC when a vessel enters the reporting zone of either SCI.
- High frequency reporting would end when a vessel leaves the reporting area around the SCIs.

Mobile network signal is not currently widely available for offshore sites; enforcement action using this system will therefore be retrospective. An enforcement protocol, based on compliance risk, will be developed to prioritise deployment of at-sea enforcement capabilities.

In the UK, vessels which are fitted with a VMS+ device can meet all the above system requirements. The VMS+ device is also capable of transmitting increased reporting either through satellite or GPRS/GSM. There is also development work on another device known as I-VMS (inshore vessel monitoring system) which although designed primarily for the English inshore fleet (those vessels under 12m in length), can also meet the above requirements. The requirements proposed will allow other Member States to report depending on the VMS technology that they currently have available to them either through GPRS/GSM or satellite.

8.3 Key provisions to include in EC regulation to manage the North Norfolk and Saturn Reef SCI and the Haisborough, Hammond and Winterton SCI

Key provisions which should be included in an EC regulation to facilitate control enforcement and compliance include:

- A prohibition of any demersal trawls and seining (where specified) being deployed within the management areas of the SCIs.
- Establishment of a 3nm (5.556km) increased reporting zone around the management areas of the North Norfolk Sandbanks and Saturn Reef SCI and the Haisborough, Hammond and Winterton SCI. All fishing vessels within these areas shall be required to record or report vessel positions at 10 minute intervals. These areas are defined by the reporting zones and coordinates displayed in Annex F.

[11] General Packet Radio System (GPRS) and Global System for Mobile communications (GSM): These are types of mobile phone technology which meet European telecommunications standards.

- A requirement for all fishing vessels entering the increased reporting zones to have a system for recording and reporting vessel position which meets prescribed specifications (see Section 8.2 of Annex A for minimal requirements) and is installed and operative. Any fishing vessel entering either North Norfolk Sandbanks and Saturn Reef SCI or Haisborough, Hammond and Winterton SCI, or the reporting zones of these sites, without such a system will be committing an offence.

- A requirement for all fishing vessels transiting the management areas carrying prohibited gears to have all gears on board lashed and stowed.

- A requirement for all fishing vessels transiting the management areas carrying prohibited gears to ensure that the speed during transit is not less than six knots except in the case of force majeure or adverse conditions. In such cases, the master shall immediately inform the fisheries monitoring centre of the flag Member State which shall then inform the MMO FMC.

The proposal on which gear types to prohibit is formulated in terms of Gear Codes in Annex XI in EU Regulation 404/2011. In general, prohibited gear types are demersal trawls and dredges, and seines over closed reef areas. Formulation of the regulation requires clear and precise definitions which distinguish allowed gear types from prohibited gear types. This includes, for trawls which can be operated both with and without bottom contact, distinguishing between these different gear riggings (if such a distinction is not feasible these gear types should be prohibited).

Management measures for these sites will be periodically reviewed in line with advancements in technology, specifically the development of improved remote vessel monitoring and gear in/out technologies.

9 Measures to monitor and assess the maintenance and/or recovery of the features within the sites

JNCC is currently leading a research and development programme to develop an integrated system of monitoring for marine biodiversity across all UK waters. The programme aims to provide a coherent framework for biodiversity monitoring to meet the requirements of existing and future monitoring and assessment obligations including those under the Marine Strategy Framework Directive, Habitats and Birds Directives and the OSPAR Convention. Monitoring and assessment of protected sites constituting the UK network of Marine Protected Areas, including Natura 2000 sites, will be an integral part of this programme. Monitoring within Natura sites in UK offshore waters will

be based on the principles outlined in the JNCC's Common Standards Monitoring Guidance (JNCC 2004).

10 Coordination with neighbouring Member States as appropriate

[To be completed following consultation]

11 Evaluation of possible displacement of fishing effort and impact on new areas

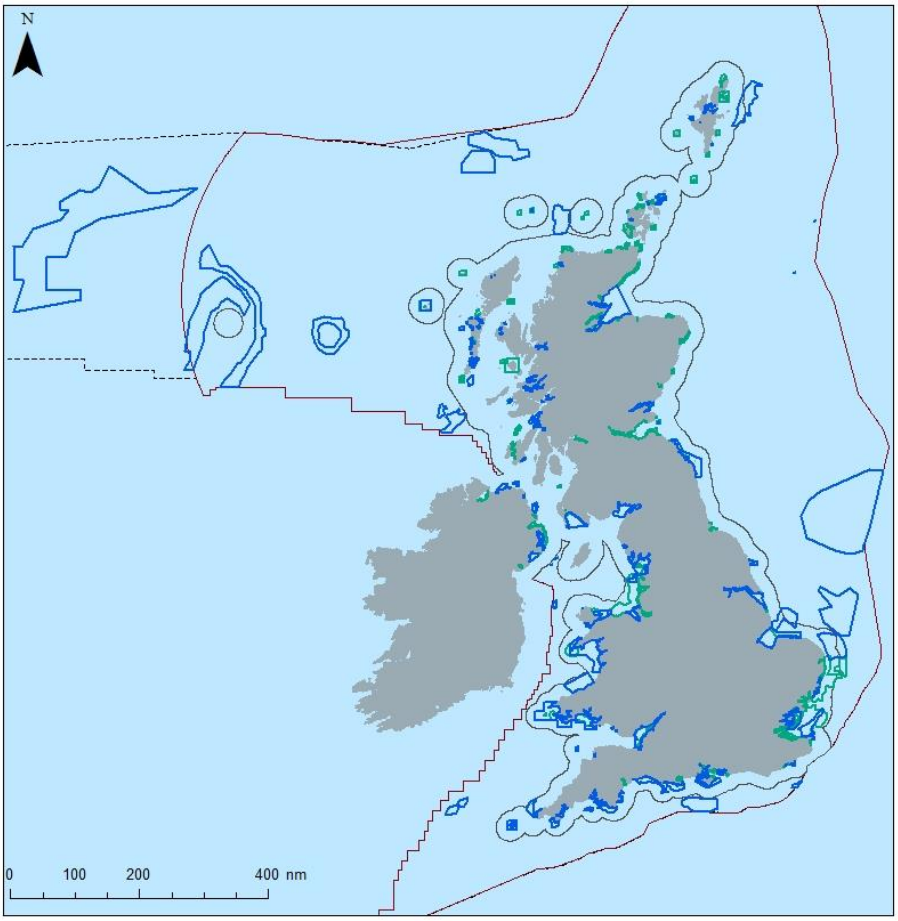
As the SCIs will be closed for certain gear types, some displacement is likely to occur both within the SCIs and outside the SCIs.

Displacement is difficult to quantify, and it is impossible to predict exactly where activities will be displaced to.

The closed areas will benefit from the prohibition of certain gears as it is considered that the first and second trawl pass (Schroeder *et al*., 2008) are the most damaging. In any case, such developments are dependent on the fishing intensity and distribution before the closure, the added fishing activity caused by displacement and external factors (such as fish distribution, TAC/quota, fuel prices, other spatial claims).

Therefore, as part of the overall monitoring programme (section 9), any changes in effort distribution within the SCIs and any possible effects should be monitored.

Annex B – Map of UK marine Natura 2000 network

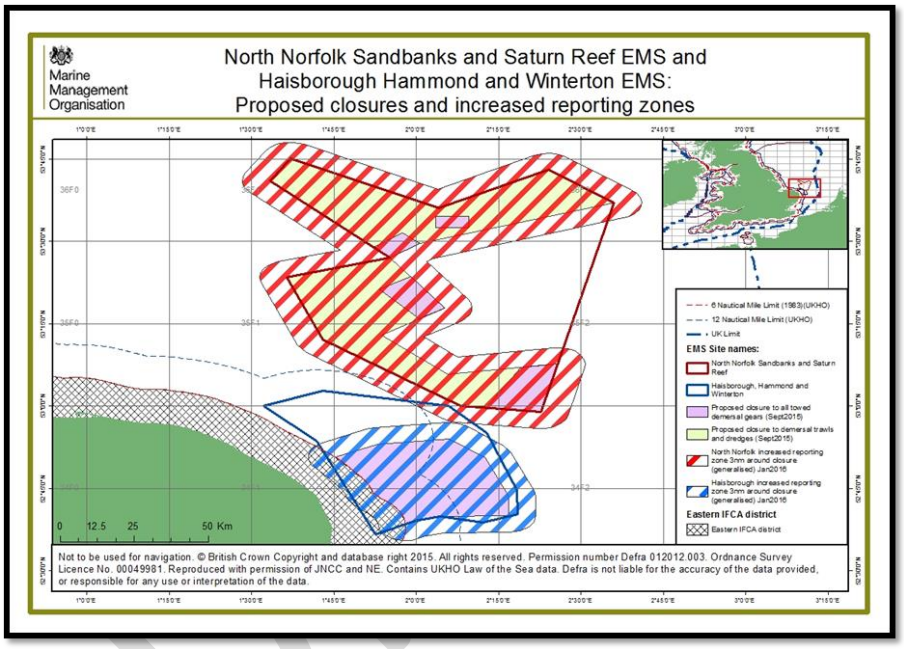


Legend

- SACs with Marine Components
- SPAs with Marine Components
- UK & Ireland
- UK Territorial Waters (12nm)
- UK Exclusive Economic Zone
- UK Continental Shelf Designated Area

Annex C – North Norfolk Sandbanks and Saturn Reef SCI and Haisborough, Hammond and Winterton SCI increased reporting zones at proposed management level

This zone is the 3nm increased reporting zone around the proposed offshore closures for both Haisborough, Hammond and Winterton EMS and North Norfolk Sandbanks EMS. These zones have been simplified to reduce the volume of coordinates. (Accurate as of 22/01/2016)



North Norfolk Sandbanks and Saturn Reef EMS increased reporting zone coordinates:

	Degrees		Degrees Minutes		Degrees Minutes Seconds	
Position	**to Latitude**	**to Longitude**	**to Latitude**	**to Longitude**	**to Latitude**	**to Longitude**
0	53.79326	1.65885	53°47.59560'	001°39.53100'	53°47'35.7360"	001°39'31.8600"
1	53.65762	2.06565	53°39.45720'	002°03.93900'	53°39'27.4320"	002°03'56.3400"
2	53.75976	2.35737	53°45.58560'	002°21.44220'	53°45'35.1360"	002°21'26.5320"
3	53.76519	2.37996	53°45.91140'	002°22.79760'	53°45'54.6840"	002°22'47.8560"
4	53.76652	2.40551	53°45.99120'	002°24.33060'	53°45'59.4720"	002°24'19.8360"
5	53.76282	2.43226	53°45.76920'	002°25.93560'	53°45'46.1520"	002°25'56.1360"
6	53.75492	2.45419	53°45.29520'	002°27.25140'	53°45'17.7120"	002°27'15.0840"
7	53.65562	2.65264	53°39.33720'	002°39.15840'	53°39'20.2320"	002°39'09.5040"
8	53.64619	2.66780	53°38.77140'	002°40.06800'	53°38'46.2840"	002°40'04.0800"
9	53.63270	2.67959	53°37.96200'	002°40.77540'	53°37'57.7200"	002°40'46.5240"
10	53.61882	2.68394	53°37.12920'	002°41.03640'	53°37'07.7520"	002°41'02.1840"
11	53.60689	2.68238	53°36.41340'	002°40.94280'	53°36'24.8040"	002°40'56.5680"
12	53.59553	2.67611	53°35.73180'	002°40.56660'	53°35'43.9080"	002°40'33.9960"
13	53.58371	2.66312	53°35.02260'	002°39.78720'	53°35'01.3560"	002°39'47.2320"
14	53.57574	2.64814	53°34.54440'	002°38.88840'	53°34'32.6640"	002°38'53.3040"
15	53.56936	2.62698	53°34.16160'	002°37.61880'	53°34'09.6960"	002°37'37.1280"
16	53.44798	2.05098	53°26.87880'	002°03.05880'	53°26'52.7280"	002°03'03.5280"
17	53.43871	2.03163	53°26.32260'	002°01.89780'	53°26'19.3560"	002°01'53.8680"
18	53.32437	2.15583	53°19.46220'	002°09.34980'	53°19'27.7320"	002°09'20.9880"
19	53.31220	2.16539	53°18.73200'	002°09.92340'	53°18'43.9200"	002°09'55.4040"
20	53.29935	2.16914	53°17.96100'	002°10.14840'	53°17'57.6600"	002°10'08.9040"
21	53.28743	2.16760	53°17.24580'	002°10.05600'	53°17'14.7480"	002°10'03.3600"
22	53.27508	2.16058	53°16.50480'	002°09.63480'	53°16'30.2880"	002°09'38.0880"
23	53.26424	2.14848	53°15.85440'	002°08.90880'	53°15'51.2640"	002°08'54.5280"
24	53.25637	2.13385	53°15.38220'	002°08.03100'	53°15'22.9320"	002°08'01.8600"
25	53.20909	2.02237	53°12.54540'	002°01.34220'	53°12'32.7240"	002°01'20.5320"
26	53.14904	2.12422	53°08.94240'	002°07.45320'	53°08'56.5440"	002°07'27.1920"
27	53.17615	2.41461	53°10.56900'	002°24.87660'	53°10'34.1400"	002°24'52.5960"
28	53.17661	2.43810	53°10.59660'	002°26.28600'	53°10'35.7960"	002°26'17.1600"
29	53.17310	2.46087	53°10.38600'	002°27.65220'	53°10'23.1600"	002°27'39.1320"
30	53.16521	2.48249	53°09.91260'	002°28.94940'	53°09'54.7560"	002°28'56.9640"
31	53.15377	2.49914	53°09.22620'	002°29.94840'	53°09'13.5720"	002°29'56.9040"
32	53.14090	2.50881	53°08.45400'	002°30.52860'	53°08'27.2400"	002°30'31.7160"
33	53.12692	2.51211	53°07.61520'	002°30.72660'	53°07'36.9120"	002°30'43.5960"
34	53.11611	2.51012	53°06.96660'	002°30.60720'	53°06'57.9960"	002°30'36.4320"
35	52.97077	2.45945	52°58.24620'	002°27.56700'	52°58'14.7720"	002°27'34.0200"
36	52.95888	2.45264	52°57.53280'	002°27.15840'	52°57'31.9680"	002°27'09.5040"
37	52.94723	2.43942	52°56.83380'	002°26.36520'	52°56'50.0280"	002°26'21.9120"
38	52.93667	2.41662	52°56.20020'	002°24.99720'	52°56'12.0120"	002°24'59.8320"
39	52.93162	2.39101	52°55.89720'	002°23.46060'	52°55'53.8320"	002°23'27.6360"
40	52.93145	2.36776	52°55.88700'	002°22.06560'	52°55'53.2200"	002°22'03.9360"
41	52.95044	2.12293	52°57.02640'	002°07.37580'	52°57'01.5840"	002°07'22.5480"
42	52.95472	2.09837	52°57.28320'	002°05.90220'	52°57'16.9920"	002°05'54.1320"
43	52.96108	2.08143	52°57.66480'	002°04.88580'	52°57'39.8880"	002°04'53.1480"
44	53.16162	1.66507	53°09.69720'	001°39.90420'	53°09'41.8320"	001°39'54.2520"
45	53.18436	1.63823	53°11.06160'	001°38.29380'	53°11'03.6960"	001°38'17.6280"
46	53.37346	1.52847	53°22.40760'	001°31.70820'	53°22'24.4560"	001°31'42.4920"
47	53.38877	1.52383	53°23.32620'	001°31.42980'	53°23'19.5720"	001°31'25.7880"
48	53.40279	1.52663	53°24.16740'	001°31.59780'	53°24'10.0440"	001°31'35.8680"
49	53.41671	1.53685	53°25.00260'	001°32.21100'	53°25'00.1560"	001°32'12.6600"
50	53.42884	1.55502	53°25.73040'	001°33.30120'	53°25'43.8240"	001°33'18.0720"
51	53.43745	1.58183	53°26.24700'	001°34.90980'	53°26'14.8200"	001°34'54.5880"
52	53.47298	1.76869	53°28.37880'	001°46.12140'	53°28'22.7280"	001°46'07.2840"
53	53.64839	1.49369	53°38.90340'	001°29.62140'	53°38'54.2040"	001°29'37.2840"
54	53.65948	1.48044	53°39.56880'	001°28.82640'	53°39'34.1280"	001°28'49.5840"
55	53.66961	1.47378	53°40.17660'	001°28.42680'	53°40'10.5960"	001°28'25.6080"
56	53.68145	1.47091	53°40.88700'	001°28.25460'	53°40'53.2200"	001°28'15.2760"
57	53.69335	1.47286	53°41.60100'	001°28.37160'	53°41'36.0600"	001°28'22.2960"
58	53.70633	1.48100	53°42.37980'	001°28.86000'	53°42'22.7880"	001°28'51.6000"
59	53.77305	1.54186	53°46.38300'	001°32.51160'	53°46'22.9800"	001°32'30.6960"
60	53.78373	1.55448	53°47.02380'	001°33.26880'	53°47'01.4280"	001°33'16.1280"
61	53.79326	1.57448	53°47.59560'	001°34.46880'	53°47'35.7360"	001°34'28.1280"
62	53.79877	1.59840	53°47.92620'	001°35.90400'	53°47'55.5720"	001°35'54.2400"
63	53.79976	1.62402	53°47.98560'	001°37.44120'	53°47'59.1360"	001°37'26.4720"
64	53.79730	1.64379	53°47.83800'	001°38.62740'	53°47'50.2800"	001°38'37.6440"

Haisborough, Hammond and Winterton EMS increased reporting zone coordinates:

	Degrees		Degrees Minutes		Degrees Minutes Seconds	
Position	**to Latitude**	**to Longitude**	**to Latitude**	**to Longitude**	**to Latitude**	**to Longitude**
0	52.85122	1.67217	052°51.07320'	01°40.33020'	052°51'04.3920"	01°40'19.8120"
1	52.86670	1.68039	052°52.00200'	01°40.82340'	052°52'00.1200"	01°40'49.4040"
2	52.87976	1.69641	052°52.78560'	01°41.78460'	052°52'47.1360"	01°41'47.0760"
3	52.88841	1.71653	052°53.30460'	01°42.99180'	052°53'18.2760"	01°42'59.5080"
4	52.92791	1.84607	052°55.67460'	01°50.76420'	052°55'40.4760"	01°50'45.8520"
5	52.93090	1.85817	052°55.85400'	01°51.49020'	052°55'51.2400"	01°51'29.4120"
6	52.93284	1.87269	052°55.97040'	01°52.36140'	052°55'58.2240"	01°52'21.6840"
7	52.94953	2.08961	052°56.97180'	02°05.37660'	052°56'58.3080"	02°05'22.5960"
8	52.94792	2.12313	052°56.87520'	02°07.38780'	052°56'52.5120"	02°07'23.2680"
9	52.93726	2.15500	052°56.23560'	02°09.30000'	052°56'14.1360"	02°09'18.0000"
10	52.87888	2.26336	052°52.73280'	02°15.80160'	052°52'43.9680"	02°15'48.0960"
11	52.85904	2.28575	052°51.54240'	02°17.14500'	052°51'32.5440"	02°17'08.7000"
12	52.74233	2.35724	052°44.53980'	02°21.43440'	052°44'32.3880"	02°21'26.0640"
13	52.72495	2.36236	052°43.49700'	02°21.74160'	052°43'29.8200"	02°21'44.4960"
14	52.66528	2.36225	052°39.91680'	02°21.73500'	052°39'55.0080"	02°21'44.1000"
15	52.64810	2.35719	052°38.88600'	02°21.43140'	052°38'53.1600"	02°21'25.8840"
16	52.63149	2.34046	052°37.88940'	02°20.42760'	052°37'53.3640"	02°20'25.6560"
17	52.62003	2.31455	052°37.20180'	02°18.87300'	052°37'12.1080"	02°18'52.3800"
18	52.61542	2.28122	052°36.92520'	02°16.87320'	052°36'55.5120"	02°16'52.3920"
19	52.61353	2.08438	052°36.81180'	02°05.06280'	052°36'48.7080"	02°05'03.7680"
20	52.60363	2.02544	052°36.21780'	02°01.52640'	052°36'13.0680"	02°01'31.5840"
21	52.59211	1.98606	052°35.52660'	01°59.16360'	052°35'31.5960"	01°59'09.8160"
22	52.59100	1.95689	052°35.46000'	01°57.41340'	052°35'27.6000"	01°57'24.8040"
23	52.59626	1.92861	052°35.77560'	01°55.71660'	052°35'46.5360"	01°55'42.9960"
24	52.60842	1.90356	052°36.50520'	01°54.21360'	052°36'30.3120"	01°54'12.8160"
25	52.62547	1.88806	052°37.52820'	01°53.28360'	052°37'31.6920"	01°53'17.0160"
26	52.64552	1.88236	052°38.73120'	01°52.94160'	052°38'43.8720"	01°52'56.4960"
27	52.65995	1.87277	052°39.59700'	01°52.36620'	052°39'35.8200"	01°52'21.9720"
28	52.67320	1.85368	052°40.39200'	01°51.22080'	052°40'23.5200"	01°51'13.2480"
29	52.68498	1.83068	052°41.09880'	01°49.84080'	052°41'05.9280"	01°49'50.4480"
30	52.69924	1.81076	052°41.95440'	01°48.64560'	052°41'57.2640"	01°48'38.7360"
31	52.71415	1.79299	052°42.84900'	01°47.57940'	052°42'50.9400"	01°47'34.7640"
32	52.73198	1.78433	052°43.91880'	01°47.05980'	052°43'55.1280"	01°47'03.5880"
33	52.74569	1.77354	052°44.74140'	01°46.41240'	052°44'44.4840"	01°46'24.7440"
34	52.76095	1.75722	052°45.65700'	01°45.43320'	052°45'39.4200"	01°45'25.9920"
35	52.77569	1.73774	052°46.54140'	01°44.26440'	052°46'32.4840"	01°44'15.8640"
36	52.79076	1.71990	052°47.44560'	01°43.19400'	052°47'26.7360"	01°43'11.6400"
37	52.80511	1.70122	052°48.30660'	01°42.07320'	052°48'18.3960"	01°42'04.3920"
38	52.81965	1.68172	052°49.17900'	01°40.90320'	052°49'10.7400"	01°40'54.1920"
39	52.83496	1.67263	052°50.09760'	01°40.35780'	052°50'05.8560"	01°40'21.4680"

Commented [VM13]: A portion of the HHW increased reporting zone currently crosses into the 0-6nm area which is the jurisdiction of Eastern IFCA. The MMO will discuss this with Eastern IFCA but it is likely that the reporting zone will be cut off at the 6nm like and will not cross into the 0-6nm area once finalised.

Annex D - Dutch Management proposal for the Haisborough, Hammond and Winterton SCI

Shown as a separate document

Annex E – References

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