Hornsea Project Four: Environmental Statement (ES)

Habitats Regulations Assessment Compensation Measures Part 1 (Tracked)

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01	-	-	Submitted at Application
02	186 and 191	7.1 and 7.2	Updated based on the most recent designated site information for Scilly Complex SAC, and inclusion of potential impact on grey seal.
02	9	1.1	Position on kittiwake AEoI conclusion
02	244	Appendix B	Updated features of Isles of Scilly SAC
02	158-167 and 170-183	5.1 and 5.2	Updates to Tables 11, 12 and 14 on the potential impacts from the footprint of the artificial nesting structure.

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Glossary

Term	Definition
Areas of Search	A term used to identify the locations for each of the proposed primary Compensation Measures.
Commitment	A term used interchangeably with mitigation and enhancement measures. The purpose of Commitments is to reduce and/or eliminate Likely Significant Effects (LSEs), in EIA terms. Primary (Design) or Tertiary (Inherent) are both embedded within the assessment at the relevant point in the EIA (e.g. at Scoping, Preliminary Environmental Information Report (PEIR) or ES). Secondary commitments are incorporated to reduce LSE to environmentally acceptable levels following initial assessment i.e. so that residual effects are acceptable.
Compensation Commitment Register	An Excel spreadsheet which identifies all of the commitments identified for consideration when assessing/ implementing the proposed compensation measures. The compensation commitments relate to both onshore and offshore, and includes the construction, operation and decommissioning phases of development for the proposed Compensation Measures. Document reference: **Volume A4, Annex 6.4: Compensation Commitments Register.**
Compensation Impacts Register	An Excel spreadsheet which identifies all of the potential effects that the project team have identified that could possibly result from the construction, operation and decommissioning of the considered compensation measures for Hornsea Four, relating to each technical topic under consideration in the EIA process. Document reference: **Volume A4, Annex 6.3 Compensation Impacts Register.**
Compensation Measures	The measures that have been developed by the Applicant pursuant to the HRA Derogation Provisions 'without prejudice' to the Applicants position of no Adverse Effect on Site Integrity at the Flamborough and Filey Coast in respect of the qualifying features. The Compensation Measures are: repurposed offshore artificial nesting platforms, new offshore artificial nesting platforms, new onshore artificial nesting platforms; bycatch reduction technology, and predator eradication. Each alone is a Compensation Measure and together are referred to as the Compensation Measures.
Cumulative effects	The combined effect of Hornsea Four in combination with the effects from a number of different projects, on the same single receptor/resource. Cumulative impacts are those that result from changes caused by other past, present or reasonably foreseeable actions together with Hornsea Project Four.
Design Envelope	A description of the range of possible elements that make up the Hornsea Project Four design options under consideration, as set out in detail in the project description. This envelope is used to define Hornsea Project Four for Environmental Impact Assessment (EIA) purposes when the exact engineering parameters are not yet known. This is also often referred to as the "Rochdale Envelope" approach.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP).

Term	Definition
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the value, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Impact Assessment (EIA) Report.
Environmental Statement (ES)	A document reporting the findings of the EIA and produced in accordance with the EIA Directive as transposed into UK law by the EIA Regulations.
High Voltage Alternating Current (HVAC)	High voltage direct current is the bulk transmission of electricity by alternating current (AC), whereby the flow of electric charge periodically reverses direction.
Hornsea Project Four Offshore Wind Farm	The term covers all elements of the project (i.e. both the offshore and onshore). Hornsea Four infrastructure will include offshore generating stations (wind turbines), electrical export cables to landfall, and connection to the electricity transmission network. Hereafter referred to as Hornsea Four.
Landfall	The generic term applied to the entire landfall area between Mean Low Water Spring (MLWS) tide and the Transition Joint Bay (TJB) inclusive of all construction works, including the offshore and onshore ECC, intertidal working area and landfall compound. Where the offshore cables come ashore east of Fraisthorpe.
Maximum Design Scenario (MDS)	The maximum design parameters of each Hornsea Four asset (both on and offshore) considered to be a worst case for any given assessment.
Mitigation	A term used interchangeably with Commitment(s) by Hornsea Four. Mitigation measures (Commitments) are embedded within the assessment at the relevant point in the EIA (e.g. at Scoping, or PEIR or ES).
National Grid Electricity Transmission (NGET) substation	The grid connection location for Hornsea Four.
Order Limits	The limits within which Hornsea Project Four (the 'authorised project) may be carried out.
Orsted Hornsea Project Four Ltd.	The Applicant for the proposed Hornsea Project Four Offshore Wind Farm Development Consent Order (DCO).
Planning Inspectorate (PINS)	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects (NSIPs).
Resilience Measures	The measure designed to support the ecological system and increase the resilience of the compensation measures. As proposed by the Applicant pursuant to the HRA Derogation Provisions 'without prejudice' to the Applicants position of no Adverse Effect on Site Integrity at the Flamborough and Filey Coast in respect of the qualifying features. The ~~Rompensation~~Compensation Measure considered is fish habitat enhancement (seagrass).

Acronyms

Term	Definition
AA	Appropriate Assessment
AEoI	Adverse Effect on Integrity
AfL	Agreement for Lease
AoS	Area of Search
AEoI	Adverse Effect on Integrity
AWD	Above Water Deterrents
BEIS	Department for Business, Energy and Industrial Strategy
CBRA	Cable Burial Risk Assessment
DCO	Development Consent Order
DBCB	Dogger Bank Creyke Beck
DP	Dynamic Positioning
ECC	Export Cable Corridor
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
ES	Environmental Statement
FFC	Flamborough and Filey Coast
HRA	Habitats Regulations Assessment
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
JNCC	Joint Nature Conservation Committee
JUV	Jack-Up Vessel
LAT	Lowest Astronomical Tide
LED	Light Emitting Diode
LSE	Likely Significant Effect
MBES	Multi-Beam Echo Sounder
MCZ	Marine Conservation Zone
MDS	Maximum Design Scenario
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
MPA	Marine Protected Area
NFFO	National Federation of Fisherman's Organisations
OOEG	Hornsea Four Offshore Ornithology Engagement Group
PEIR	Preliminary Environmental Information Report
PINS	The Planning Inspectorate
PSA	Particle Size Analysis
RIAA	Report to Inform Appropriate Assessment
RSBP	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SNCB	Statutory Nature Conservation Body
SPA	Special Protection Area
SoS	Secretary of State
SSS	Side-Scan Sonar
TCE	The Crown Estate
TCPA	Town and Country Planning Act

Term	Definition
UKHO	UK Hydrographic Office
UXO	Unexploded Ordnance
WFD	Water Framework Directive

Units

Unit	Definition
dB	Decibel (sound pressure)
Hz	Hertz (frequency)
Km	Kilometer (distance)
Km^2	Kilometer squared (distance)
M	Meter (distance)
M^2	Meter squared (distance)

1 Introduction

1.1 Project Background

1.1.1.1 Orsted Hornsea Project Four Limited (hereafter the 'Applicant') is proposing to develop Hornsea Project Four Offshore Wind Farm (hereafter 'Hornsea Four'). Hornsea Four will be located approximately 69 km offshore the East Riding of Yorkshire in the Southern North Sea and will be the fourth project to be developed in the former Hornsea Zone. Hornsea Four will include both offshore and onshore infrastructure including an offshore generating station (wind farm), export cables to landfall, and connection to the electricity transmission network. Detailed information on the project design can be found in **Volume A1, Chapter 1: Project Description**, with detailed information on the site selection process and consideration of alternatives described in **Volume A1, Chapter 3: Site Selection and Consideration of Alternatives**.

1.1.1.2 The Hornsea Four Agreement for Lease (AfL) area was 846 km^2 at the Scoping phase of project development. In the spirit of keeping with Hornsea Four's approach to Proportionate Environmental Impact Assessment (EIA), the project has given due consideration to the size and location (within the existing AfL area) of the final project that is being taken forward to Development Consent Order (DCO) application. This consideration is captured internally as the "Developable Area Process", which includes Physical, Biological and Human constraints in refining the developable area, balancing consenting and commercial considerations with technical feasibility for construction.

1.1.1.3 The combination of Hornsea Four's Proportionality in EIA and Developable Area Process has resulted in a marked reduction in the array area taken forward at the point of DCO application. Hornsea Four adopted a major site reduction from the array area presented at Scoping (846 km^2) to the Preliminary Environmental Information Report (PEIR) boundary (600 km^2), with a further reduction adopted for the Environmental Statement (ES) and DCO application (468 km^2) due to the results of the PEIR, technical considerations and stakeholder feedback. The evolution of the Hornsea Four Order Limits is detailed in **Volume A1, Chapter 3: Site Selection and Consideration of Alternatives** and **Volume A4, Annex 3.2: Selection and Refinement of the Offshore Infrastructure**.

1.1.1.4 The Applicant is submitting a DCO application to the Planning Inspectorate (PINS), supported by a range of plans and documents including an ES which sets out the results of the EIA of Hornsea Four and its associated infrastructure. The Applicant is also submitting a Report to Inform Appropriate Assessment (RIAA) (**B2.2: Report to Inform Appropriate Assessment**) which sets out the information necessary for the competent authority (the Secretary of State (SoS) for the Department for Business, Energy & Industrial Strategy (BEIS)) to undertake an Appropriate Assessment (AA) to determine if there is any Adverse Effect on Integrity (AEoI) on the national site network as a result of the development of Hornsea Four (alone and or in-combination). Should the conclusion of that AA be AEoI (or there is uncertainty around this), that would raise the requirement for the Applicant to consider subsequent stages of the Habitats Regulation Assessment (HRA) process (typically referred to as the derogations), which brings a requirement, among other considerations, to secure compensatory measures.

1.1.1.5 In accordance with the Habitats Regulations, the RIAA [**B2.2: Report to Inform Appropriate Assessment**] considers whether Hornsea Four could result in an AEoI on a conservation site of European importance (European site). The Applicant's ~~evidence presented within the~~

RIAA concluded~~ded~~ that Hornsea Four will potentially have an AEoI, in combination, on the kittiwake feature of the Flamborough and Filey Coast (FFC) SPA~~-~~. No AEoI was concluded for all other~~not have an AEoI on any~~ European site features.

1.1.1.6 It is material to note that in granting consent for Hornsea Three, the SoS[1] did so in light of a conclusion of adverse effect with respect to three designated sites; of these three sites the Flamborough and Filey Coast (FFC) Special Protection Area (SPA) is also a material consideration for Hornsea Four. Further, during the consideration of the DCO application for Hornsea Three Offshore Wind Farm (Hornsea Three), the SoS clarified the importance of i) identifying the potential for AEoI of designated sites during the pre-application period and ii) considering the need for derogation of the Habitats Regulations during examination, where there is potential for AEoI. The SoS further expected Applicants and Statutory Nature Conservation Bodies (SNCBs) to engage constructively during the pre-application period and on these matters, including possible compensatory measures, for consideration during examination. The SoS was clear that this does not require that an agreement is reached between the Applicant and the SNCBs on the potential for significant adverse impacts on designated sites, and that evidence relating to derogation can be provided on a 'without prejudice' basis, as the final decision on such matters remains with the SoS.

1.1.1.7 As such, ~~despite the conclusion of no AEoI in all cases within the RIAA (**B2.2: Report to Inform Appropriate Assessment**),~~ the Applicant is proposing a suite of Compensation Measures that could be implemented in the event that the SoS concludes that there would be an AEoI on the FFC SPA as a result of Hornsea Four. These Compensation Measures are set out in a 'without prejudice' Derogation Case which forms part of the DCO Application (**B2.5: Without Prejudice HRA Derogation Case**). The Compensation Measures are proposed 'without prejudice' to the Applicant's RIAA conclusion of no AEoI in relation to gannet, guillemot and razorbill features of~~n~~ the FFC SPA~~ in the RIAA~~. Compensation measures for kittiwake are not presented 'without prejudice' based on the AEoI conclusion for the species.

1.1.1.8 The potential Compensation Measures are set out in **Table 1** with further details on the measures set out in **B2.5: Without Prejudice HRA Derogation Case**. It is anticipated that for gannet, razorbill and guillemot, a package of measures could be required, rather than a single compensation measure. The Compensation Measures are proposed to be located in numerous areas of the UK and beyond, including British dependency islands (see **Figure 1** for the Areas of Search (AoS)).

[1] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010080/EN010080-003265-EN010080%20Hornsea%20Three%20-%20Secretary%20of%20State%20Decision%20Letter.pdf

Table 1: Potential 'without prejudice' Compensation Measures for Hornsea Four.

Compensation Measure	Option	Location	Location ID	Kittiwake	Gannet	Guillemot	Razorbill
Offshore nesting	New	Southern North Sea	A1				
Offshore nesting	Repurposed	Southern North Sea	A1				
Onshore nesting	New	Cayton Bay to Newbiggin by the Sea	B1				
		Suffolk Coast	B2				
Bycatch	-	Thames Estuary	C1				
		South coast of England: Broadstairs to Plymouth	C2				
Predator eradication	-	Isles of Scilly	D1				
		Rathlin Island, Moyle, Northern Ireland	D2				
		Torquay, Devon	D3				
		Guernsey and Aldernery	D4				
Fish habitat enhancement[2]	Seagrass	Rathlin Island, Moyle, Northern Ireland	E1				
		Isles of Scilly	E2				
		Celtic Sea, Wales	E3				
		Plymouth Sound to Helford River	E4				
		Solent	E5				
		Essex Estuaries	E6				
		Humber Estuary	E7				

[2] Resilience measure

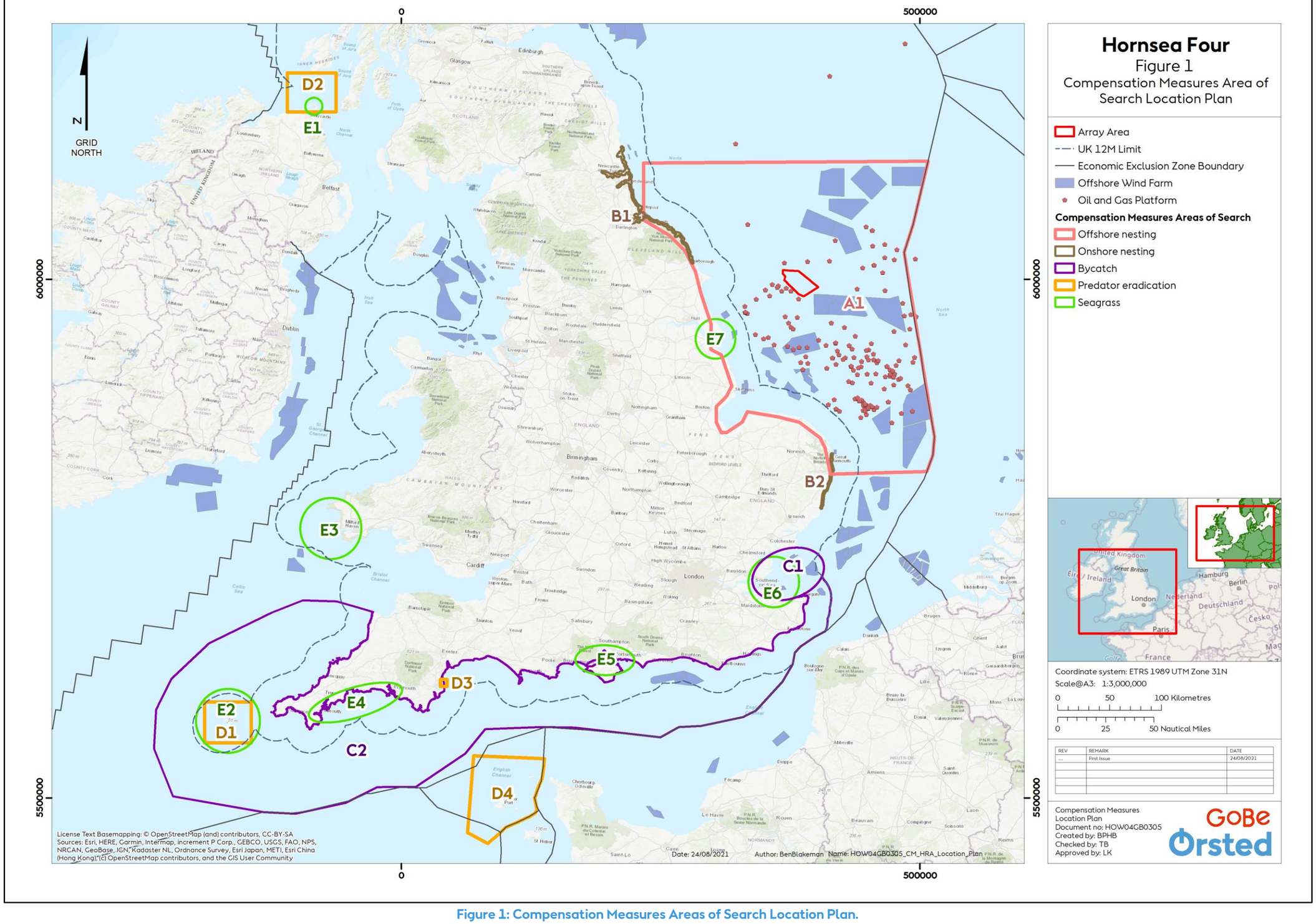


Figure 1: Compensation Measures Areas of Search Location Plan.

1.2 Purpose of this Document

1.2.1.1 In order to consider the environmental impacts associated with the implementation of the proposed Compensation Measures, an Annex to the Hornsea Four ES has been produced (hereafter 'the Compensation Measures EIA' – **Volume A4, Annex 6.6: Compensation EIA Annex**), with this document (hereafter 'the Compensation Measures HRA') also being produced in relation to the Compensation Measures. This document includes both Screening and information to inform AA, to provide the information necessary for HRA.

1.2.1.2 This document has been produced to inform the HRA process for the Compensation Measures. It provides information to enable the screening of each of the Compensation Measures with respect to their potential to have a likely significant effect (LSE) on European and Ramsar sites of nature conservation importance. Where potential for LSE is identified (or cannot be discounted), determination of the potential for an adverse effect on integrity (AEoI) is made in light of appropriate mitigation measures.

1.2.1.3 The assessment provided in this document is based on the current understanding of the location, scope and nature of the proposed Compensation Measures. It should be noted, however, that ultimately, the Compensation Measures will not be consented through the Hornsea Four DCO application process and will be subject to (where necessary) standalone EIA and HRA processes as part of their own consenting process (for example a Marine Licence application and/or Planning Application). As part of that consenting process, further assessment work will be undertaken, based on refined design and methodology details.

1.3 Structure of this Document

1.3.1.1 This Compensation Measures HRA is set out in a number of stages as follows:

- Consultation (**Section 1.4**);
- The Maximum Design Scenario for the potential Compensation Measures for Hornsea Four (**Section 1.5**);
- A brief summary of the Habitats Regulations Assessment Process (**Section 2**);
- Identification of potential effects (**Section 2.3.2**);
- An HRA section for each Compensation Measure (**Sections 3** to **6**), with each section containing the following sections:
  - Screening - an assessment of the potential for LSE to arise for the project alone with regard to the designated features of the European sites under consideration;
  - Information to Inform Appropriate Assessment where screening has identified potential for LSE.
- Conclusions (**Section 8**); and
- References (**Section 10**).

1.3.1.2 Detail on the need for the compensation measures and alternatives considered to date is provided in **B2.5: Without Prejudice HRA Derogation Case**. As part of this, it is noted that the AoS under consideration remain broad in terms of location and extent; this is necessary at this stage to ensure all options are considered and the most appropriate identified. It is expected that the AoS will be subsequently refined should the derogation case be required to progress as a condition of the award of the Hornsea Four DCO.

1.4 Consultation

1.4.1.1 The Applicant has undertaken extensive consultation with relevant stakeholders as part of the preparation of the 'without prejudice' Derogation Case (namely, Natural England, Joint Nature Conservation Committee (JNCC), the Royal Society for the Protection of Birds (RSPB), the Marine Management Organisation (MMO), PINS, Defra, Local Planning Authorities, The Wildlife Trusts, the National Federation of Fisherman's Organisations (NFFO) and relevant local organisations with key knowledge) regarding compensation for Hornsea Four. Relevant stakeholders will be engaged through the Hornsea Four Offshore Ornithology Engagement Group (OOEG). Further detail on this consultation is presented in the Record of Consultation (**B2.9: Record of Consultation**). Consultation will be ongoing with various stakeholders for all proposed compensation measures at various stages through the process.

1.4.1.2 The Applicant has undertaken some consultation specifically in relation to the Compensation Measures with statutory consultees who may have an interest in the proposed Compensation Measures, and certain stakeholders located in the vicinity of the land potentially affected by the measures. This targeted consultation ran from 5th August to 6th September 2021. All responses and comments are presented in Volume A1, Annex 1.37 Non-Statutory Targeted Compensation Measures Consultation Responses alongside the regard the Applicant has had to these consultation responses.

1.5 Project Description

1.5.1 Introduction

1.5.1.1 The project description is presented for each Compensation Measure as a Maximum Design Scenario (MDS), in line with the approach taken in the ES and the RIAA. This approach ensures that the scenario(s) that would have the greatest impact, relevant to the AoS and the Compensation Measure under consideration, is identified and assessed. As a result, we can be confident that any other (lesser) scenario(s) will have an impact that is no greater than that assessed.

1.5.1.2 The following sections (**Section 2.3.3** to **2.3.6**) therefore provide a description of the design and methodologies related to each of the proposed Compensation Measures referenced in **Table 1** and summarised below, presented as a MDS. These descriptions set out the design and components for any infrastructure, as well as the activities associated with the installation/ construction, implementation/ operation/ maintenance, and decommissioning of each Compensation Measure (where relevant). Further details on these measures can be found in **Volume A4, Annex 6.1: Compensation Project Description**. The Compensation Measures are as follows:

- Offshore Artificial Nesting Structure (New and Repurposed);
- New Onshore Artificial Nesting Structure;
- Bycatch Reduction Technology;
- Predator Eradication; and
- Resilience Measure – Fish Habitat Enhancement (Seagrass).

1.5.2 Areas of Search

1.5.2.1 As noted above, AoS have been identified for each Compensation Measure, with these shown in **Figure 1**. These AoS range from small areas around islands or discrete sections of coastline, to larger areas spanning large areas of sea and coastlines. These have been identified and the AoS identification process is detailed for each compensation measure in **Volume A4, Annex 6.1: Compensation Project Description**. Information on the consultation undertaken as part of the process to date is presented within **Volume B2, Annex 9 Record of Consultation**. As noted above, the extent of the AoS remains broad but will be refined as the process progresses. The individual AoS for each Compensation Measure are shown in figures following each MDS.

1.5.3 Compensation Measures Commitments

1.5.3.1 All Commitments relevant to the Compensation Measures HRA are detailed in **Volume A4, Annex 6.4: Compensation Commitments Register**. Commitments are not taken into account during the consideration of potential ~~LSE,~~LSE; however Commitments are a consideration during the determination of potential for AEoI.

1.5.4 Compensation Measures Programme

1.5.4.1 The high-level, indicative, programme presented below is applicable to the implementation and delivery of all Compensation Measures (with Compensation Measures to commence prior to construction of Hornsea Four):

- Hornsea Four development consent determination – 2022/23;
- Compensation implementation licencing – 2022/24;
- Compensation implementation – 2023/24;
- Offshore construction of Hornsea Four Foundations– 2026;
- Offshore construction of Hornsea Four Turbines– 2027; and
- First Power (partially operational windfarm) – 2028.

1.5.4.2 The requirement for, and the exact nature of, the decommissioning of the Compensation Measures will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. The Applicant will design the bird nesting structure for a design life equal to that of the windfarm (i.e. 35 years plus 4 years to establish the compensation measures, pre-wind farm operation). Therefore, the lifetime of the structure is approximately 39 years). In the final few years of wind farm operation, the Applicant will commence inspections and surveys of the bird nesting structures to determine if an extension of the lifetime is possible.

1.5.4.3 It is currently anticipated that both the predator eradication and bycatch measures implementation will result in new management practices which shall continue for the lifetime of Hornsea Four. Fish habitat enhancement (seagrass) compensation measure sites will be left in perpetuity.

1.5.5 Offshore Artificial Nesting Structure (New and Repurposed)

1.5.5.1 The provision of new and/or repurposed artificial nesting sites is presented as a potential Compensation Measure for the black-legged kittiwake (*Rissa trydactyla*) (referenced

throughout as kittiwake) and northern gannet (*Morus bassanus*) (referenced throughout as gannet) (**Table 1**).

1.5.5.2 Kittiwake have been observed readily (APEM 2021 and NIRAS 2021) utilising man-made structures. As such, the provision of an offshore artificial nest site to increase the annual recruitment of kittiwake into the regional population of the southern North Sea. This is considered a potential primary Compensation Measure relating to in-combination collision effects during the operation and maintenance phase of Hornsea Four on the kittiwake population designated at the FFC SPA. The aim of the Compensation Measure is to provide one structure that can collectively sustain a breeding population of kittiwake pairs, which would produce sufficient breeding adults to compensate for the estimated impact of Hornsea Four.

1.5.5.3 The Applicant is considering two options by which to achieve this:

- Repurposing an existing oil and gas platform(s) that is due for decommissioning (preferred); or
- Construction of a new offshore nesting structure(s).

1.5.5.4 The Area of Search for an offshore artificial nesting structure (new and repurposed structures) is shown in **Figure 2**. The site selection process for these offshore structures is outlined in the 'without prejudice' Derogation Case (specifically **B2.7.1 Compensation measures for FFC SPA: Offshore Artificial Nesting: Ecological Evidence**). The purpose of the site selection process has been to identify an area, or existing structure (e.g., an oil and gas platform), to host artificial nesting sites that will be occupied by new recruits that will contribute to an increase of breeding adults to the Southern North Sea kittiwake population. The principles influencing optimal site selection include:

- Locations with connectivity to the Eastern Atlantic kittiwake population – based within the North Sea;
- Locations with proximity to reliable food resources – close to sea fronts (e.g. southern North Sea); and
- Locations with proximity to growing kittiwake colonies – near to known offshore sites with colonies of kittiwake (e.g., southern North Sea oil and gas platforms).

1.5.5.5 Ongoing consultation will involve conservation and ornithological groups with local knowledge and expertise. The detail of the continued site selection process will be presented within **B2.7.6: Outline Kittiwake Compensation Implementation and Monitoring Plan** that will be developed in consultation with relevant stakeholders (through the Hornsea Four OOEG).

New offshore artificial nesting structure

1.5.5.6 For the purpose of the assessment, a maximum design scenario of one new offshore artificial nesting structure is considered, to be installed on one of the following foundation types, noting that the requirement for a new offshore structure, the location and the exact foundation type are yet to be determined:

- Monopile;
- Mono-suction bucket;

- Gravity based foundation;
- Piled jacket; or
- Suction bucket jacket.

1.5.5.7 The overall design of a topside nesting structure is flexible, as long as suitable narrow nesting ledges are present. A summary of the key features an offshore platform for nesting might include is provided below:

- High and steep sided structure, narrow horizontal ledge for nests, small overhang above nest;
- Inaccessible to predators, which offshore would primarily be large gulls;
- Some shelter from high winds and other adverse weather conditions; and
- May include a shelter and potentially CCTV to enable monitoring of the seabirds.

1.5.5.8 The new offshore artificial nesting structure(s) will likely be installed in two stages, firstly the foundation will be installed, and secondly the topside will be lifted from a jack -up vessel (JUV) onto the foundation. Some form of seabed preparation (boulder and sandwave clearance), unexploded ordnance (UXO) clearance and scour protection may be required for the foundations.

1.5.5.9 The maximum design scenario parameters for a new offshore nesting structure is presented below in **Table 2**.

Table 2: Maximum design parameters for a new offshore nesting platform.

Parameter	Maximum design parameter
Number of offshore nesting platforms	2
Topside structure length (m)	25
Topside structure width (m)	25
Topside structure height (m above LAT)	20
Topside thickness (from topside to upper level of foundation) (m)	10
NOTE: Foundation dimensions are dependent on topside dimensions. Which in turn are dependent upon the design of the final topside, which is dependent upon the number of kittiwakes to be compensated.	

1.5.5.10 Full details regarding the potential development can be found in **Volume A4, Annex 6.1: Compensation Project Description**.

Repurposed offshore artificial nesting structure

1.5.5.11 The Applicant could utilise a single existing offshore platform (potentially an existing oil and gas structure or similar), and use the foundation to either design, construct and install a new topside once the existing topside structure has been removed and decommissioned or repurpose the existing topside structure by adding additional nesting ledges.

1.5.5.12 The topside of the repurposes structure will be up to 19 m above LAT, up to 16 m long, and 13 m wide. The topside design will follow the same principles as outlined in **paragraph**

1.5.5.7.

1.5.5.13 Foundation installation is not required if repurposing an existing offshore platform. However minor modifications to the existing offshore platform foundation may be required. Foundation repurposing installation activities could include repairs, modifications, or reinforcement of existing foundation infrastructure. All modifications would be undertaken using either or a combination of Dynamic Positioning (DP) and JUV vessels.

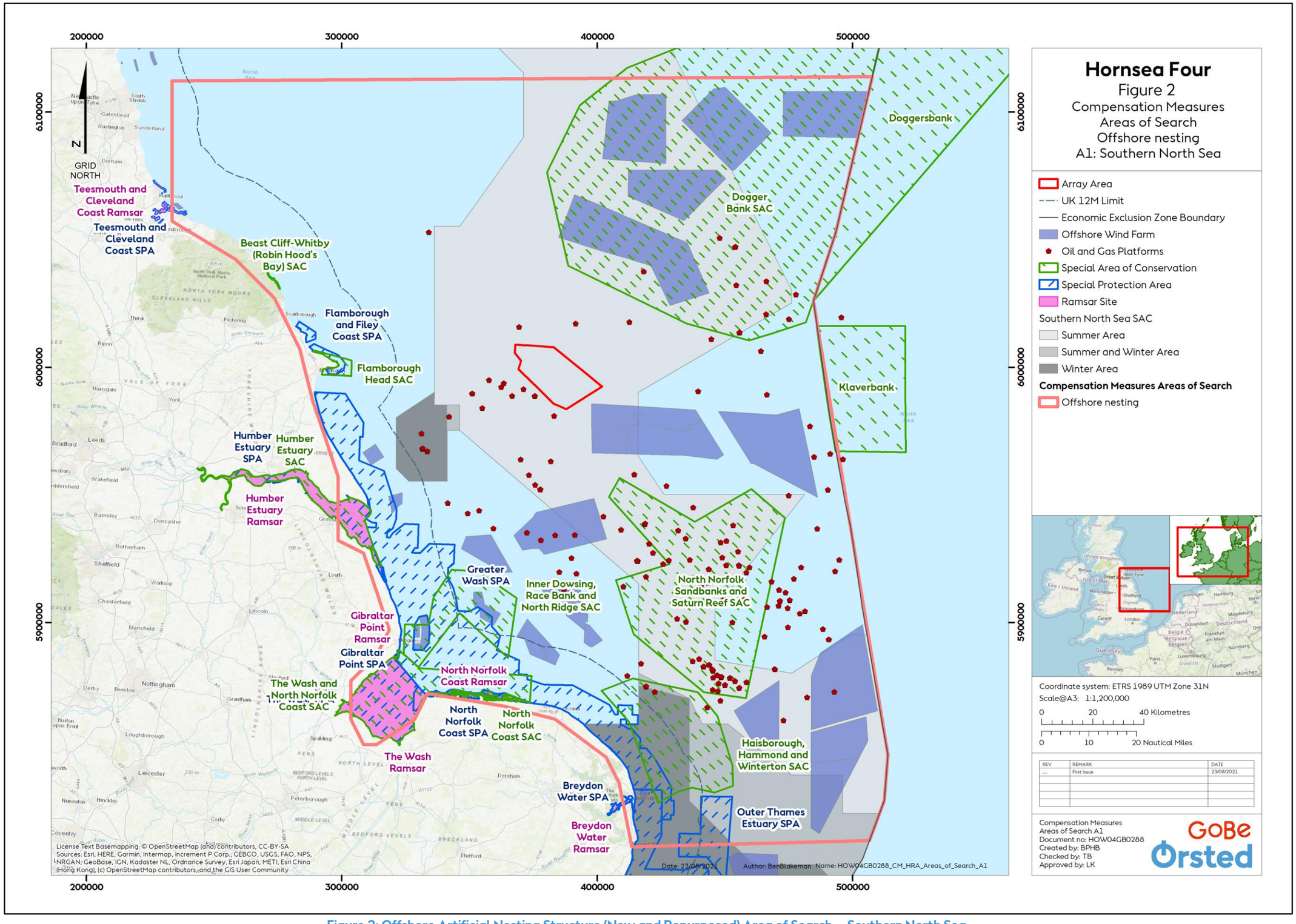


Figure 2: Offshore Artificial Nesting Structure (New and Repurposed) Area of Search – Southern North Sea.

1.5.6 New Onshore Artificial Nesting Structure

1.5.6.1 The Applicant is proposing an onshore artificial nesting structure for kittiwake if during Examination, the Secretary of State considers that an alternative (alternative to a preferred repurposed or new offshore nesting) measure is required to the proposed primary measures outlined in Section 4.1.3. The approach to site selection and design are primarily driven by ecological/habitat requirements of the ornithology interests to increase the likelihood of colonisation and ensure the success of the structure. The onshore artificial nesting structure will be located within one of two search zones. The Areas of Search for onshore artificial nesting structures (both new and repurposed structures) is shown in **Figure 3** and **Figure 4**.

1.5.6.2 The structure will be designed to accommodate the level of compensation required for both kittiwake and gannet with greater proportion of the capacity available for kittiwake, relative to gannet (i.e. 80% kittiwake nests to 20% gannet nests; the exact ratio to be determined) and will accord with the design principles and indicative maximum parameters set out below.

1.5.6.3 The design principles for the onshore artificial nesting structure are subject to significant further development; however, design principles of direct relevance to the size or appearance of the structure are as follows:

- Steep sided with a near vertical back wall and narrow horizontal ledges;
- Located close to water, facing out to sea (i.e. nest adjacent to/above harbour waters/sea);
- Inaccessible to predators (additional anti-predation features may be required at some sites – e.g. fences/ barriers to deter mammalian predators (e.g. foxes and rats) and dependent on design bird spikes may be required as avian predator deterrents);
- Nesting ledges located above the level of highest astronomical tide and beyond the reach of wave or tidal action;
- Adequate ledge dimensions: Horizontal ledges 20 cm width; length per pair from 30 cm (working length 40 cm); and height between ledges at a minimum of 40 cm and maximum of 60cm. (Note these may be subject to change based on feedback from the stakeholders during detailed design);
- Minimum height at which the lowest shelves should begin depends whether the structure is located directly over water or set back slightly, as well as the level of human disturbance anticipated;
- Overhang/roof to buffer against weather conditions as to act as and additional predator deterrents;
- Vertical wall leaning slightly forward (working angle of 5°; to minimise lower ledges becoming fouled by droppings and reduce predation risk);
- Using materials which are in-keeping with the structure's surroundings whilst ensuring they meet the requirements of kittiwake's natural habitat as much as possible; and
- Higher ledges could be wider than lower ledges (to prevent lower ledges becoming fouled by droppings) (BTO Field Guide No. 23, du Feu (2015)). However, wider upper ledges may increase predation risk/ allow non target species to nest.

Construction

1.5.6.4 The construction of the onshore artificial nesting structure depends on whether the

structure comprises a building, or prefabricated structure (dependant on monitoring and access requirements for tagging). Building construction works, are anticipated to comprise:

- Site preparation works, including vegetation clearance (if required), erection of site fencing and small-scale enabling works;
- Establishment of a site compound and temporary site infrastructure, including a site cabin and welfare facilities;
- Delivery of construction materials and equipment;
- Installation of necessary foundations (to be confirmed, dependant on detailed design and site location); and
- Construction of the nesting structure on-site, methodology of which is dependent on the materials to be used (to be agreed as part of detailed design). Materials used for the building may comprise concrete, wood, or metal).

1.5.6.5 Prefabricated structure construction works are anticipated to comprise:

- Site preparation works, including vegetation clearance (if required), erection of site fencing and small-scale enabling works;
- Establishment of a site compound and temporary site infrastructure, including a site cabin and welfare facilities;
- Delivery of pre-fabricated components of the nesting structure and equipment;
- Installation of necessary foundations (to be confirmed, dependant on detailed design and site location); and
- Assembly and Installation of the nesting structure on-site, methodology of which is dependent on the materials to be used (to be agreed as part of detailed design). Materials used for the pre-fabricated structure may comprise wood or metal.

1.5.6.6 Construction is anticipated to comprise a maximum of 10 AADT HGV movements (subject to detailed design). The site may require a temporary construction access track (dependant on site location), using crushed aggregate on geo-textile, soil stabilisation or temporary trackway. The access track will be 10 m wide, comprising 6m wide road (with 7 m wide passing places) and additional width for topsoil storage. The maximum depth of the access track would be 1 m.

1.5.6.7 A temporary logistics compound may be required and the dimensions of which would be approximately 70x70 m.

Operation

1.5.6.8 Once the construction of the onshore artificial nesting structure is complete, the site will be secured using fencing and the structure will be operational. Whilst operational activities are under development, **Table 3** outlines some design principles that may be of relevance, dependant on stakeholder input and detailed design consideration.

Table 3 Onshore nesting structure design principles.

Importance	Principle Description
Optimising monitoring	Capacity for remote monitoring devices e.g. cameras to be fitted to the structure. Ideally these would need to provide coverage of all available ledges at a sufficiently high resolution to monitor individual nests and their contents e.g., chicks and eggs, to be inspected.
Optimising monitoring / essential at some sites	Complex monitoring features to include: • Internal access; • Enclosed structures where the personnel monitoring within would be hidden from view, including to birds flying above and therefore minimising any disturbance; • Either with hatches to allow access from behind/within the structure to individual nests by suitably qualified ornithologists undertaking monitoring works; • And / or one-way glass to allow observations to be made from interior/back of structure; • Capacity for additional monitoring equipment to be accommodated within/on the structure (nice to have, not essential); and • Sanitation facilities (requirement to be determined).
Desirable (a, d) Optimising success (b, c, e)	Capacity for the structure to be modified to facilitate adaptive management design features after they have been operational for some time and if required. These may include: • Extension of structure to facilitate further nesting spaces. This would require either sufficient space to expand (laterally or vertically) or designed-in expansion points – for example a modular structure which can be extended; • Relocation of nesting structure. This would require straightforward assembly of components and potential to disassemble, balanced against longevity and stability of the structure; • Additional protection from elements e.g. wind/weather shield location points; • Enhanced predator deterrent e.g. straightforward roof and fencing maintenance, including opportunities to add avian predator deterrents; and • Provision of nesting material, such as seaweed. This would require additional protected space around or under the structure.

1.5.6.9 The number of monitoring visits is anticipated to be low, accessing the site on foot where possible. It is acknowledged that the location of the nesting structure is to be determined. Therefore impacts from noise and odour are to be determined during detailed design phase once the proximity to local communities has been calculated. This is anticipated to be post-consent of Hornsea Four.

1.5.6.10 Monitoring and maintenance activities could theoretically comprise the following:

- Removal of kittiwake guano from structure and appropriate disposal;
- Remedial works to structure (i.e. storm damage to nesting ledges);
- Ensuring structure is structurally sound;
- Changing batteries used for speakers playing kittiwake calls; and
- Removal of litter, graffiti or any objects deemed hazardous to kittiwakes.

1.5.6.11 Further project description details in relation to the new onshore artificial nesting structure can be found in **Volume A4, Annex 6.1: Compensation Project Description**.

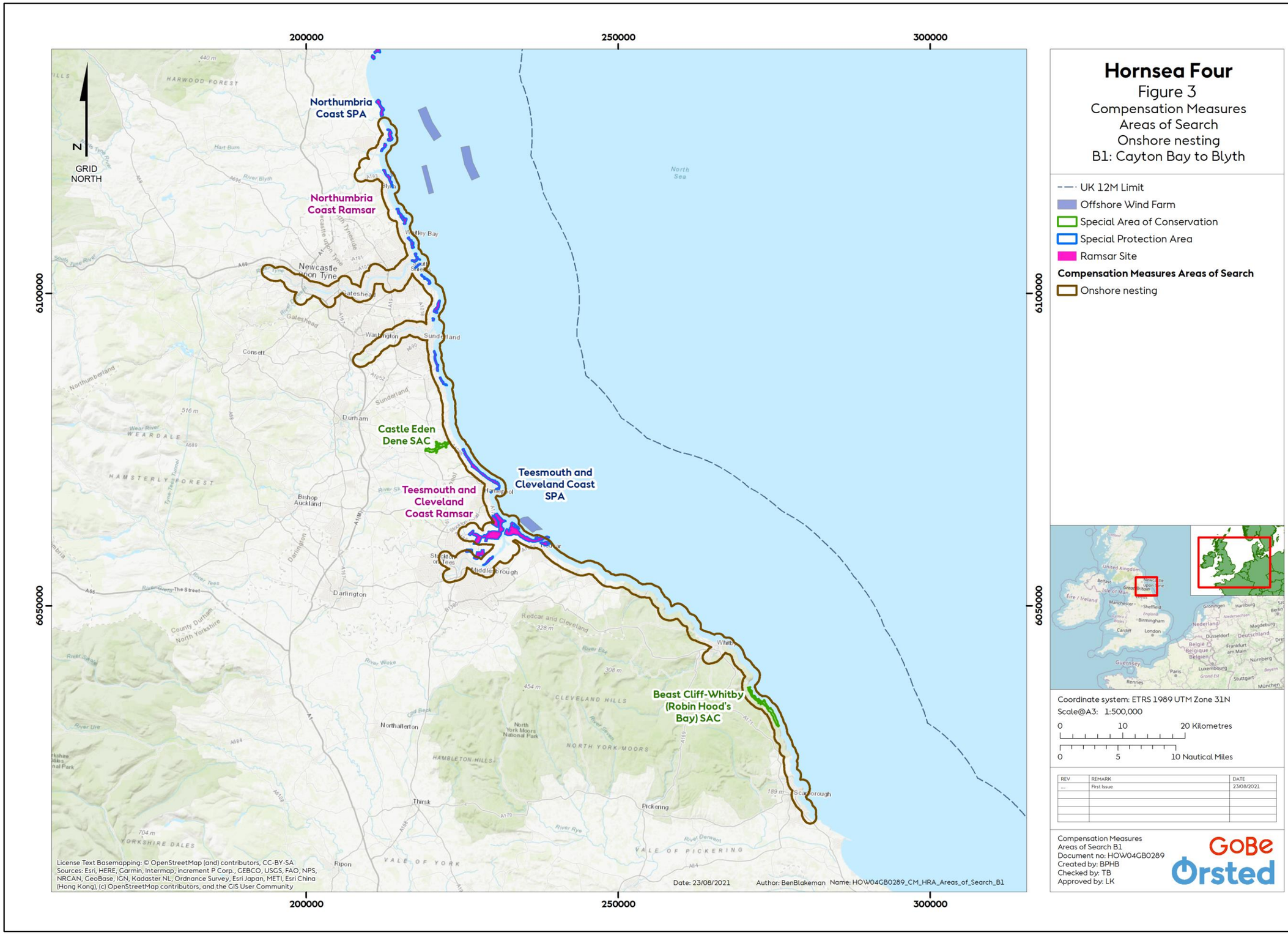


Figure 3: New Onshore Artificial Nesting Structure Area of Search B1 - Clayton Bay to Blyth.

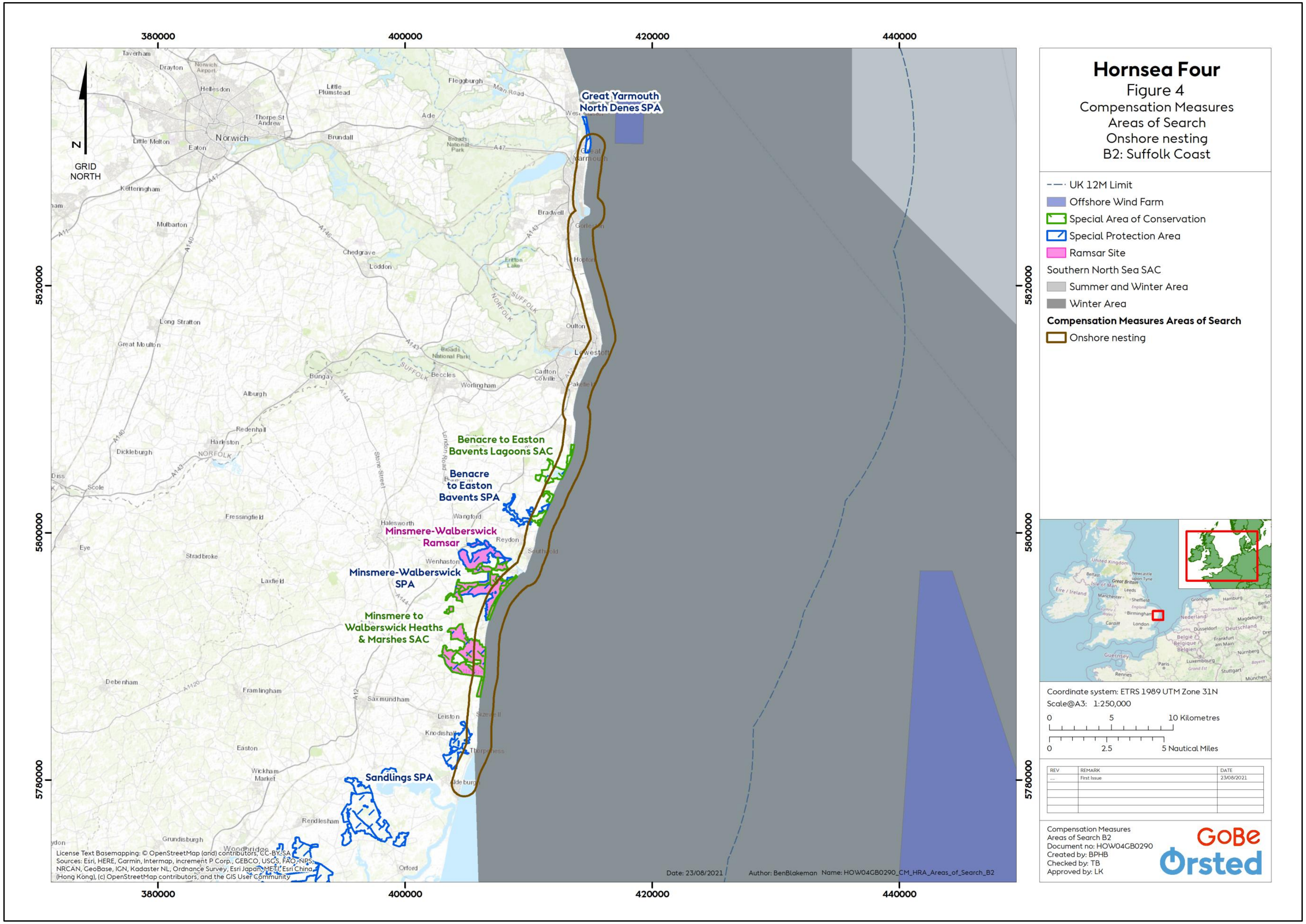


Figure 4: New Onshore Artificial Nesting Structure Area of Search B2 - Suffolk Coast.

1.5.7 Bycatch Reduction Technology

1.5.7.1 The implementation of Bycatch Reduction technology is presented as a potential Compensation Measure for guillemot (*Uria aalge*), razorbill (*Alca torda*) and gannet (*Morus bassanus*) (**Table 1**).

1.5.7.2 Bycatch, which is the incidental capture of non-target species in fisheries, can present a significant pressure on seabird populations (Miles et al. 2020). Within recent decades, seabird populations have plummeted, largely due to commercial fisheries (direct competition and bycatch) (Croxall et al. 2012). Monitoring of the issue is extremely low with onboard observer monitoring coverage relatively low compared to the number of fishing vessels (Pott and Wiedenfeld 2017). To mitigate against the number of seabirds, specifically razorbills and guillemots that may be at risk of displacement, the Applicant proposes to support the overall numbers of these birds through the reduction of bird bycatch in selected UK fisheries with connectivity to the populations from FFC SPA.

1.5.7.3 The reduction of bird bycatch will be achieved through the use of additional deterrent equipment attached onto fishing gear. Different techniques are more suited to specific fishing gear types and specific target bycatch species of birds. The proposed bycatch reduction methods being considered as a package of compensation measures are above water deterrents (AWDs), net lights, and net panels.

1.5.7.4 Potential fisheries with reported bird bycatch and population connectivity with the FFC SPA include the UK South coast, Cornwall, and the Thames Estuary. All of these locations are being considered for potential bycatch reduction technology selection phase and future implementation. Specifically, bycatch hotspots have been identified in both the South East and South West of the UK, along with reports of bird bycatch at other locations along the south coast and in the Thames Estuary. The AoS for Bycatch Reduction technology is shown in **Figure 7** and **Figure 8**; these depict areas where fishing takes place and where bycatch reduction technology selection phase may be targeted.

Fishery selection

1.5.7.5 Current research suggests that gillnetting, depending on location and seasonality, suffers high levels of bird bycatch (Northridge et al. 2020). As such, many of the bycatch reduction methods currently available are focussed on bycatch from gillnets. This Compensation Measure will therefore include reduction of bird bycatch from gillnet fisheries. There is less evidence to support the contribution of other fishing methods on bycatch, including mid-water trawl bycatch. Evidence gathering by the Applicant is ongoing for mid-water trawl bycatch, however, there is not currently enough evidence to demonstrate the efficacy of above water deterrents for bycatch reduction from mid-water trawls at the moment. However, currently all above bycatch reduction methods are being considered for mid-water trawling.

1.5.7.6 From April to July (breeding season), both guillemot and razorbill are located tightly around their colonies (around the coasts of the UK except for the Humber to the Isle of Wight). Outside of the breeding season, both species move further offshore, then start moving south. By December both species are located offshore around all UK coasts. As seabird distributions change throughout the year, it is likely that bycatch rates will also vary as higher seabird densities

increase the bycatch risk (Bradbury et al., 2017). It is therefore important to evaluate temporal variations when identifying areas of high bycatch vulnerability for the purpose of planning bycatch reduction locations.

1.5.7.7 Potential fisheries with reported bird bycatch and population connectivity with the wider site network and include the UK South coast, Cornwall, and the Thames Estuary. All of these locations are being considered for potential bycatch reduction trails and future implementation.). Bycatch hotspots have been identified in both the South East and South West of the UK, along with reports of bird bycatch at other locations along the south coast and in the Thames Estuary.

AWDs

1.5.7.8 AWDs are typically structures fixed to buoys or markers attached to set fishing gear, which work to scare birds away from fishing nets. Current nets are often made from monofilament nylon, which is nearly invisible to seabirds underwater and so the aim of deterrents is to deter birds from approaching the nets and becoming entangled. Specifically, the proposed AWD is a looming eye boy, which is comprised of a floating buoy, topped by a long stick and a marker on the top that includes an eye-like pattern (Figure 5). The aim of the buoy is to work like a scarecrow in scaring birds away from nets. The eye design on the top panel may mimic deterrent eye patterns found in nature, whilst the bobbing and spinning of the buoy will result in a "looming" effect over the birds, thus deterring them from approaching the buoys. They are not designed to make any noise or light and are attached to the fishing equipment already in place. No additional vessel presence and/or movement or equipment is required.

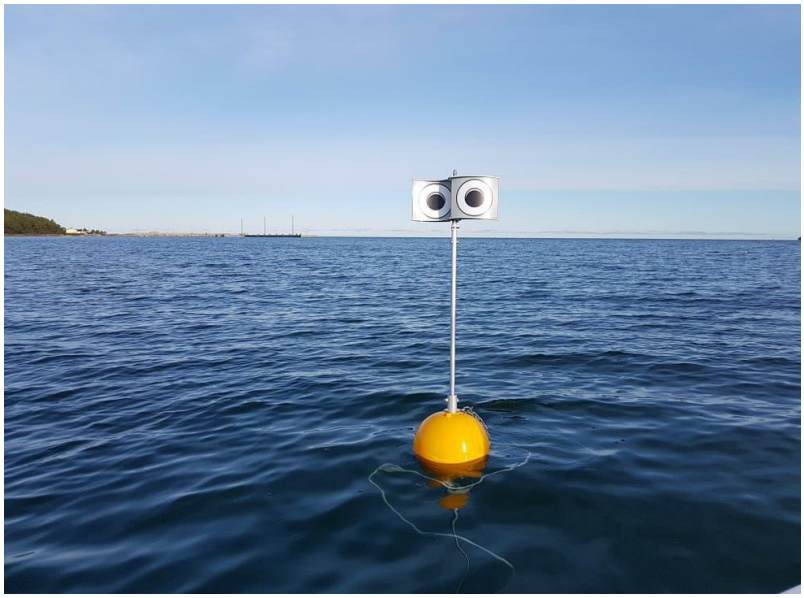


Figure 5: Looming Eye Buoy (Source: The Independent[3]).

Net lighting (Light Emitting Diodes [LEDs])

1.5.7.9 LED net lights are small simple lights which can be attached to existing fishing gear to act as a deterrent to non-target species. The aim of the lights is to increase the visibility of the nets in the water to birds and marine mammals so that they do not become entangled with the nets. There

[redacted]

are multiple designs available of these lights, with the majority being pre-attached to the nets ahead of deployment and remaining in place until the nets are hauled in. No additional vessel presence and/or movement or equipment is required.

Figure 6 A commercially available net light (Source: Fishtek[4])

Net panels

1.5.7.10 Attaching highly visible panels to nets may increase the visibility of the nets to diving birds and therefore reduce bycatch. Panels may comprise equally spaced black and white squares, attached to the surface of nets, to ensure they are highly visible to diving birds. The panels often require holes in them to reduce the effect of currents on the set gear. The panels are pre-attached to nets and are deployed as the nets are set. No additional vessel presence and/or movement or equipment is required.

Implementation, operation and monitoring

1.5.7.11 Bycatch reduction technology selection phase for Looming Eye buoys are planned for October 2021-January 2022, with potential for a further selection phase under consideration. Following the selection phase to gather further evidence on the efficacy of each bycatch reduction method, a specific measure or combination of measures will be selected to take forward. Implementation of the planned compensation will begin following determination of the DCO application by the Secretary of State. To ensure that the equipment continues to be used and that further evidence can be gathered to confirm the success of the measures, a monitoring programme may be required during the operational use of the measures. There are many examples of fishing gear monitoring around the world, which include but are not limited to gear cameras, self-reporting, blue-tooth tags, and equipment trackers. The exact method of monitoring to be used will be decided based upon further evidence gathering and discussion with industry experts. The Wind Farm is expected to operate for 35 years following construction. If required, the accepted bycatch reduction measure(s) would be used and monitored throughout the operational lifespan of the wind farm. Following the monitoring programme, overall measure uptake and success of the bycatch reduction measure, the equipment may continue to be used as a deterrent.

[4] [redacted]

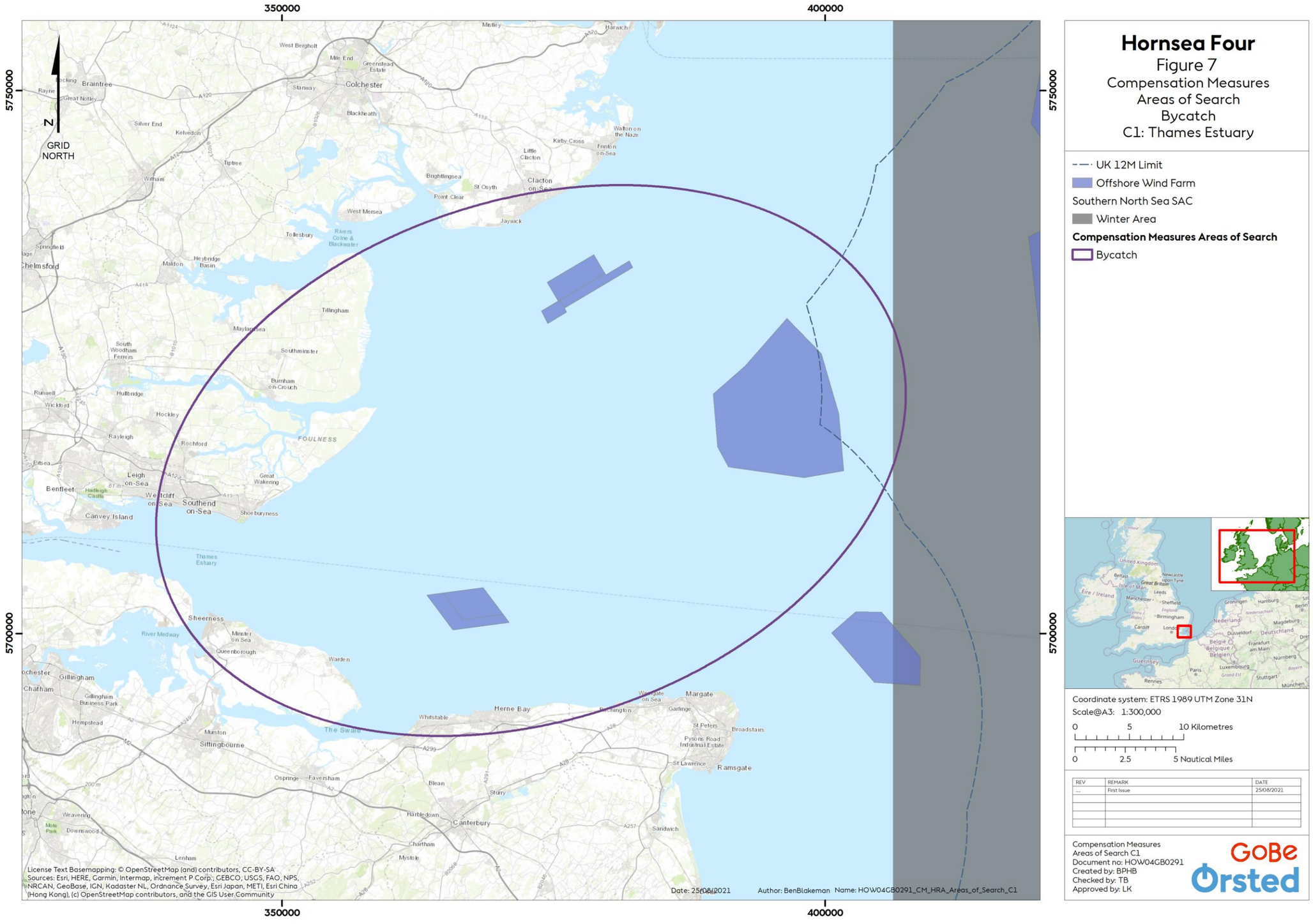


Figure 7: Bycatch Reduction Technology C1 – Thames Estuary.

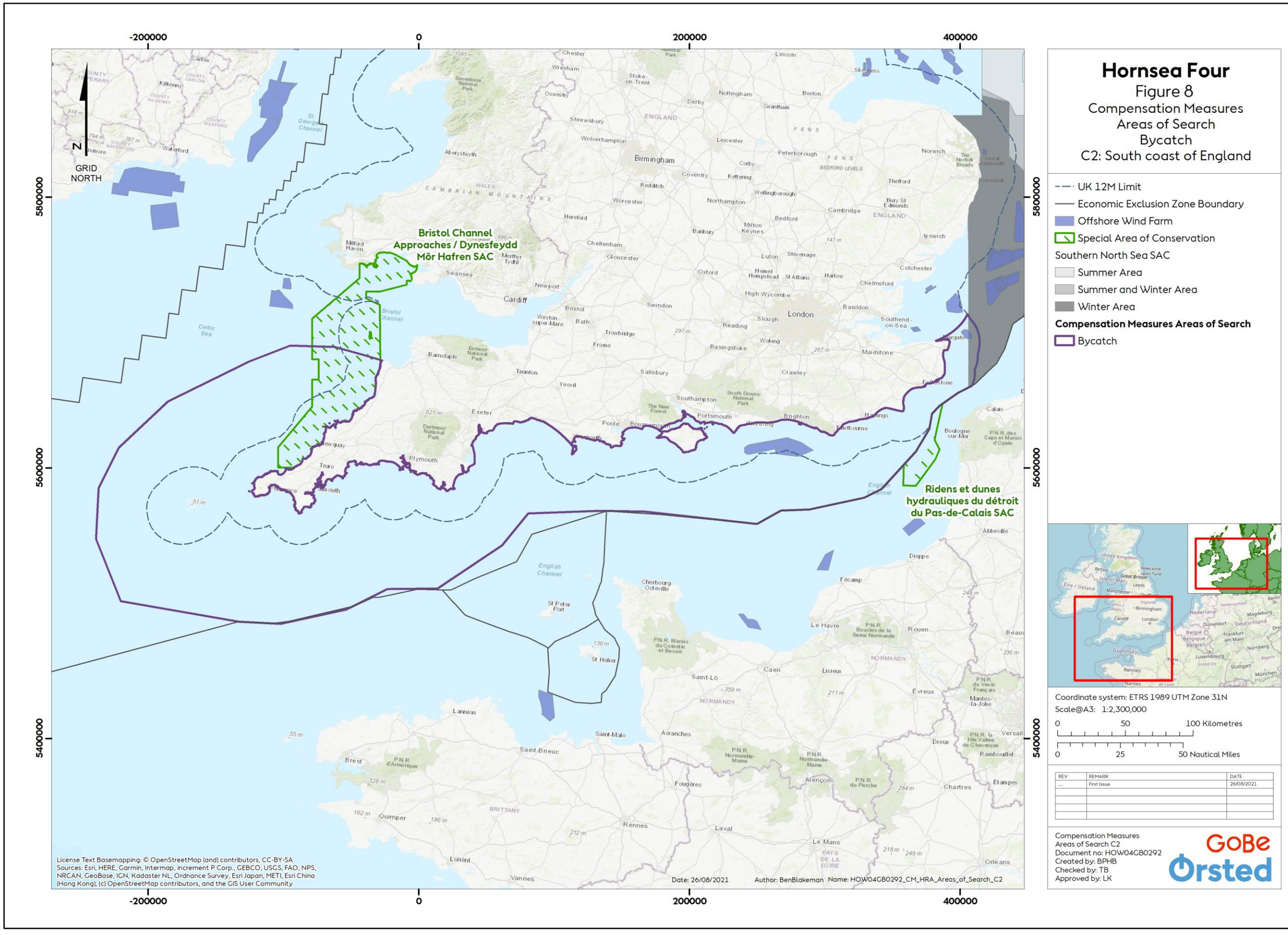


Figure 8: Bycatch Reduction Technology C2 – South coast of England: Broadstairs to Plymouth.

1.5.8 Predator Eradication

1.5.8.1 To compensate the potential displacement impact on guillemot and razorbill from the operation of the Hornsea Four offshore wind farm, the Applicant proposes to implement a predator eradication programme at selected guillemot and / or razorbill breeding colonies. The selected colony will be chosen based on delivery and connectivity to the populations from FFC SPA. This would be part of a package of compensation measures for these species.

1.5.8.2 Predator eradication will be undertaken using well established methods evidenced throughout the wealth of previous predator eradication examples from the UK and further afield. For ground predators, such as rats, this usually involves poison bait stations. The primary species the measures of predator eradication would be focussed upon are rat and house mouse but could extend to include mink or crow as a supportive measure pending ecological advice and stakeholder discussions, whilst ensuring non-targeted species are accidently eradicated.

1.5.8.3 Following the removal of the invasive species, biosecurity measures will subsequently be installed to prevent re-invasion. Biosecurity measures form a vital consideration in ensuring that efforts to remove invasive species have not been undertaken in vain. There are a significant number of biosecurity measures available depending on the location and species being considered, all of which have been tried and tested at previous predator eradication schemes (e.g., Biosecurity for LIFE projects).

Location

1.5.8.4 It is proposed that predator eradication will be undertaken on an island or islands where both invasive mammalian predators and guillemot and/ or razorbill are present. The Applicant is currently liaising with site managers at multiple islands to understand the prevalence of invasive mammalian species and ascertain the level of pressure posed to breeding guillemot and razorbill. The potential broad areas currently being considered for predator eradication include:

- Rathlin Island;
- Channel Islands;
- Isles of Scilly; and
- Islands off the south coast of Devon.

1.5.8.5 The specific locations within these broad areas are continuing to be explored and The Applicant will remain open to considering other locations if identified and/or deemed suitable. Those islands where invasive mammalian predators have increased access to breeding locations will be favoured due to the high degree of overlap.

1.5.8.6 Before any predator eradication schemes are implemented at a specific location, an eradication feasibility assessment will be undertaken to ensure measures can be employed to remove the invasive species and that biosecurity measures can be subsequently installed to prevent reinvasion, whilst not affecting the native species and/or species that may not affect guillemot and/or razorbills.

Operation, implementation, and monitoring

1.5.8.7 The objective of the eradication programme will be to remove mammalian predators from the island(s) that are currently suppressing the breeding success (and therefore, population size) of guillemot and razorbill (amongst other species) at these locations. The removal of this pressure will therefore lead to an increase in productivity and ultimately an increase in the population size of these species, whilst not affecting any other species that are not known to be detrimental to guillemot and/or razorbills.

1.5.8.8 Following the feasibility assessment and in partnership with site managers, invasive species eradication specialists will be contracted to undertake the island(s) eradication. Consideration of the timing of a predator eradication programme will be made to ensure that they are undertake at the optimal time and that will not for example affect a species/habitat that are not known to be detrimental to guillemot and/or razorbills.

1.5.8.9 The primary aim of an eradication scheme is always to completely remove the introduced animal from the chosen area. In theory, just a single pregnant female of the invasive animal could repopulate the area. Two years intensive monitoring for the presence of the eradicated animal is required to receive the invasive-free status (Nathan et al., 2015; Russell et al., 2017). For example, this was the process taken for the eradication of rats on Canna and Sanday under contract by Wildlife Management International, starting in late 2005. By February 2006 the last rat sign was detected, and after a two-year period of intensive monitoring, the island was declared rat-free in 2008 (see Bell, et al., 2011). The predator eradication programme would only be undertaken by appropriate qualified people and all methods will be agreed with the appropriate stakeholders.

1.5.8.10 Following the invasive species status, seabird recovery monitoring will continue for the lifetime of Hornsea Four. Monitoring will include population census and productivity monitoring. This will be compared to pre-eradication data (which will be collected to characterise the baseline and supplement historic seabird data for the location where available). The presence of invasive species will also be monitored to detect signs of repopulation.

Summary of Predator Eradication Compensation Measure

1.5.8.11 Predator eradication is a primary Compensation Measure. In-combination with other primary razorbill and guillemot measures, predator eradication will be able to deliver the required level of compensation for Hornsea Four. A detailed evidence report, and roadmap will be submitted with the DCO application to demonstrate the potential compensation deliverable by the predator eradication programme both alone and combined with the other primary compensation measures. The evidence report will include a summary of the supporting evidence for predator eradication compensation and the roadmap will outline the further steps that will be undertaken from submission to demonstrate that the Compensation Measure can be secured. These Compensation Measures are effective, feasible and securable measures that can be implemented prior to the impact occurring and sustainable for the lifetime of the project. In designing this compensation measure the Applicant has consulted and worked with Natural England, JNCC, the RSPB, The Wildlife Trust, other statutory bodies and other relevant stakeholders to seek to ensure this compensation measure is both robust, deliverable and effective.

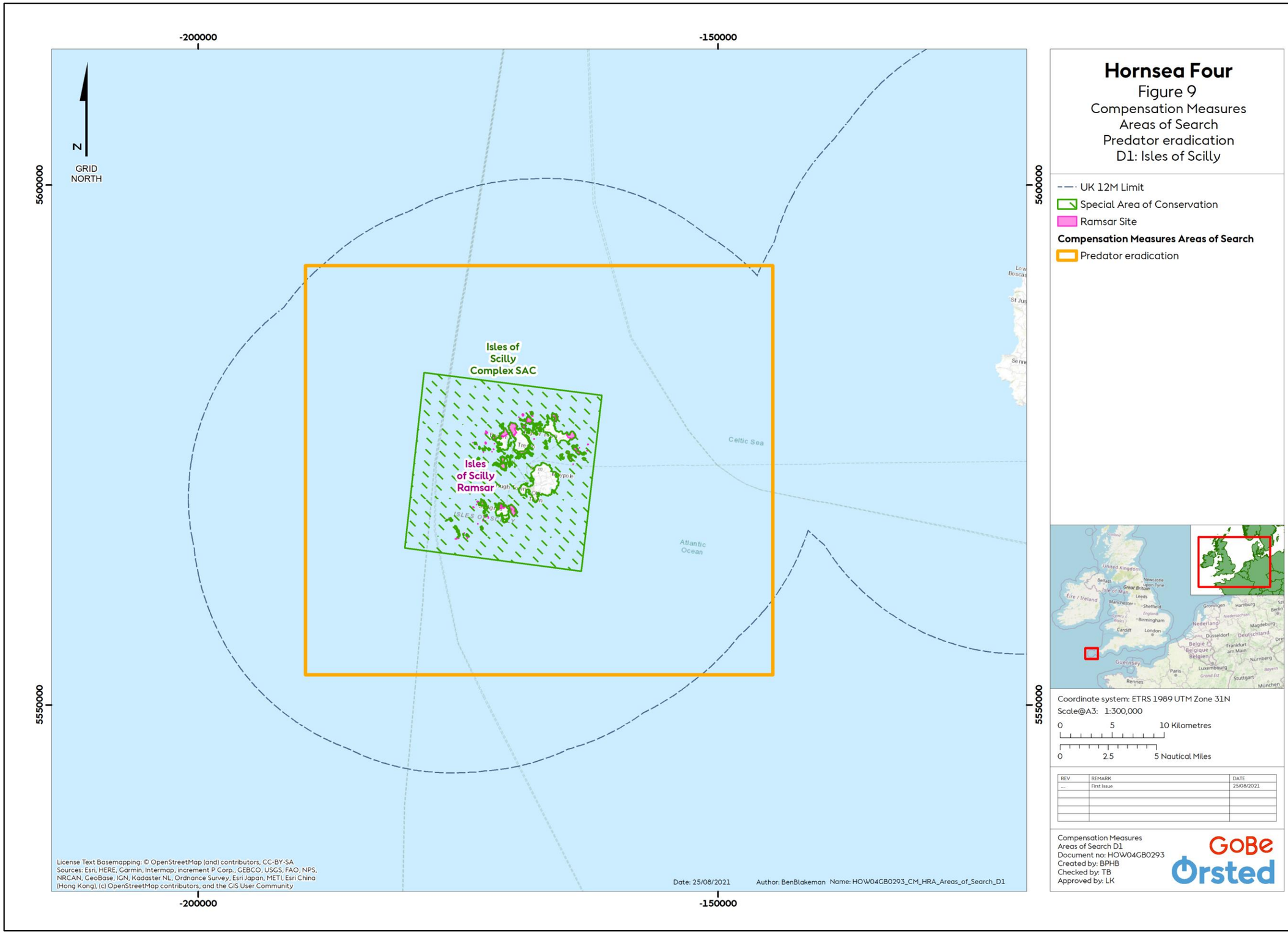
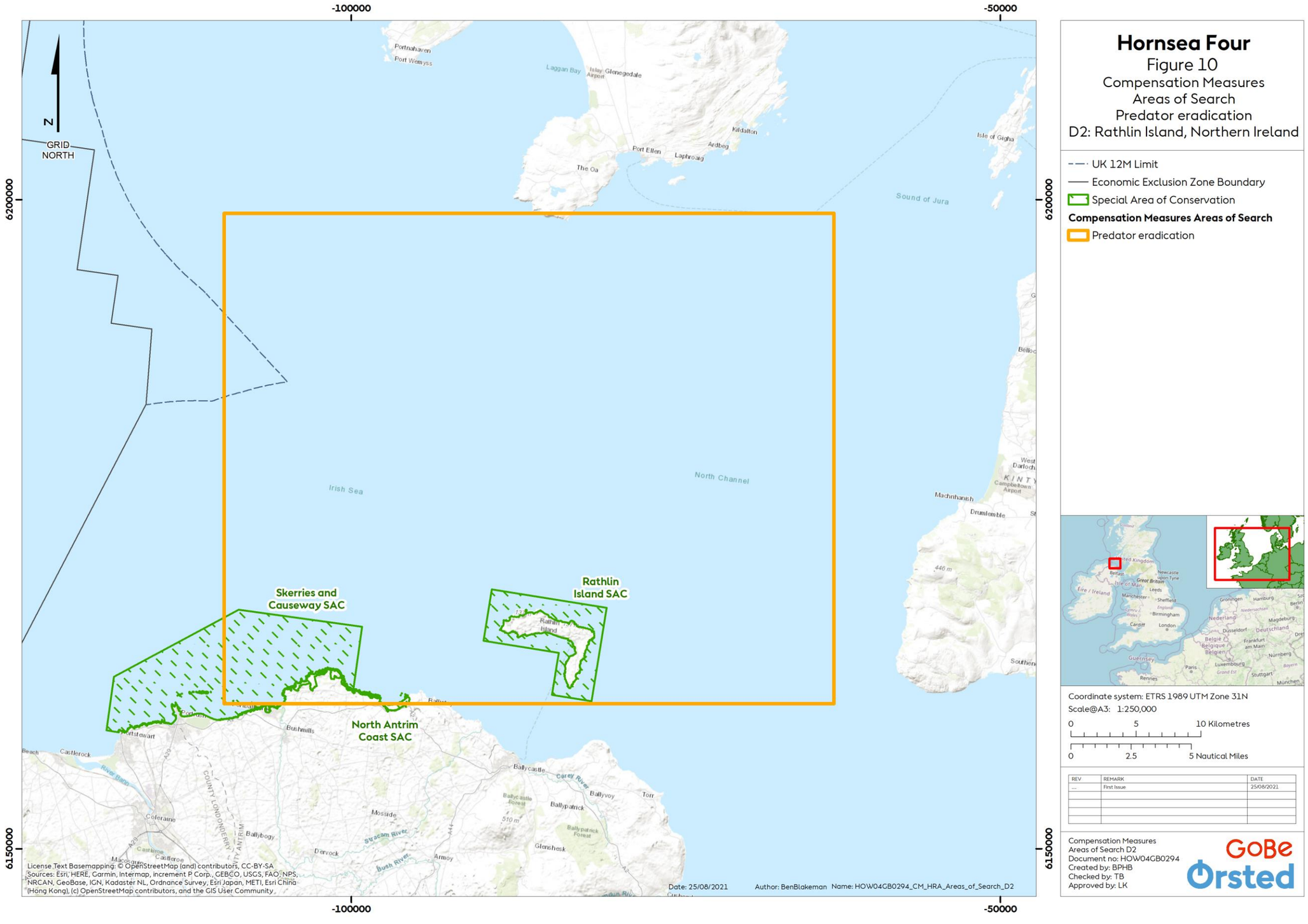


Figure 9: Predator Eradication Area of Search D1 – Isles of Scilly.



Hornsea Four

Figure 10
Compensation Measures
Areas of Search
Predator eradication
D2: Rathlin Island, Northern Ireland

- UK 12M Limit
- Economic Exclusion Zone Boundary
- Special Area of Conservation

Compensation Measures Areas of Search

- Predator eradication

Coordinate system: ETRS 1989 UTM Zone 31N
Scale@A3: 1:250,000

0 5 10 Kilometres
0 2.5 5 Nautical Miles

REV	REMARK	DATE
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Compensation Measures
Areas of Search D2
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Checked by: TB
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Figure 10: Predator Eradication Area of Search D2 – Rathlin Island.

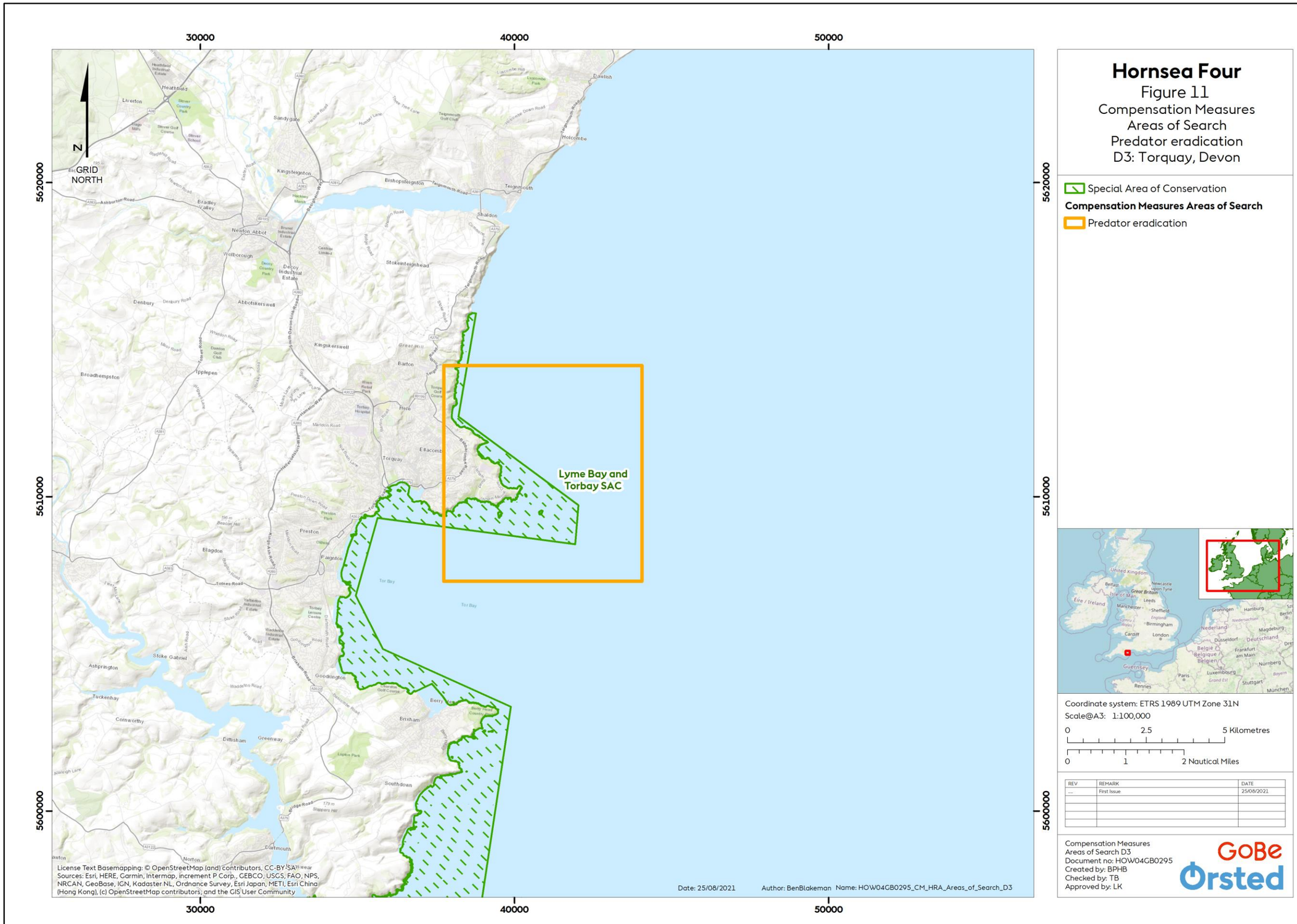


Figure 11: Predator Eradication Area of Search D3 – Torquay, Devon.

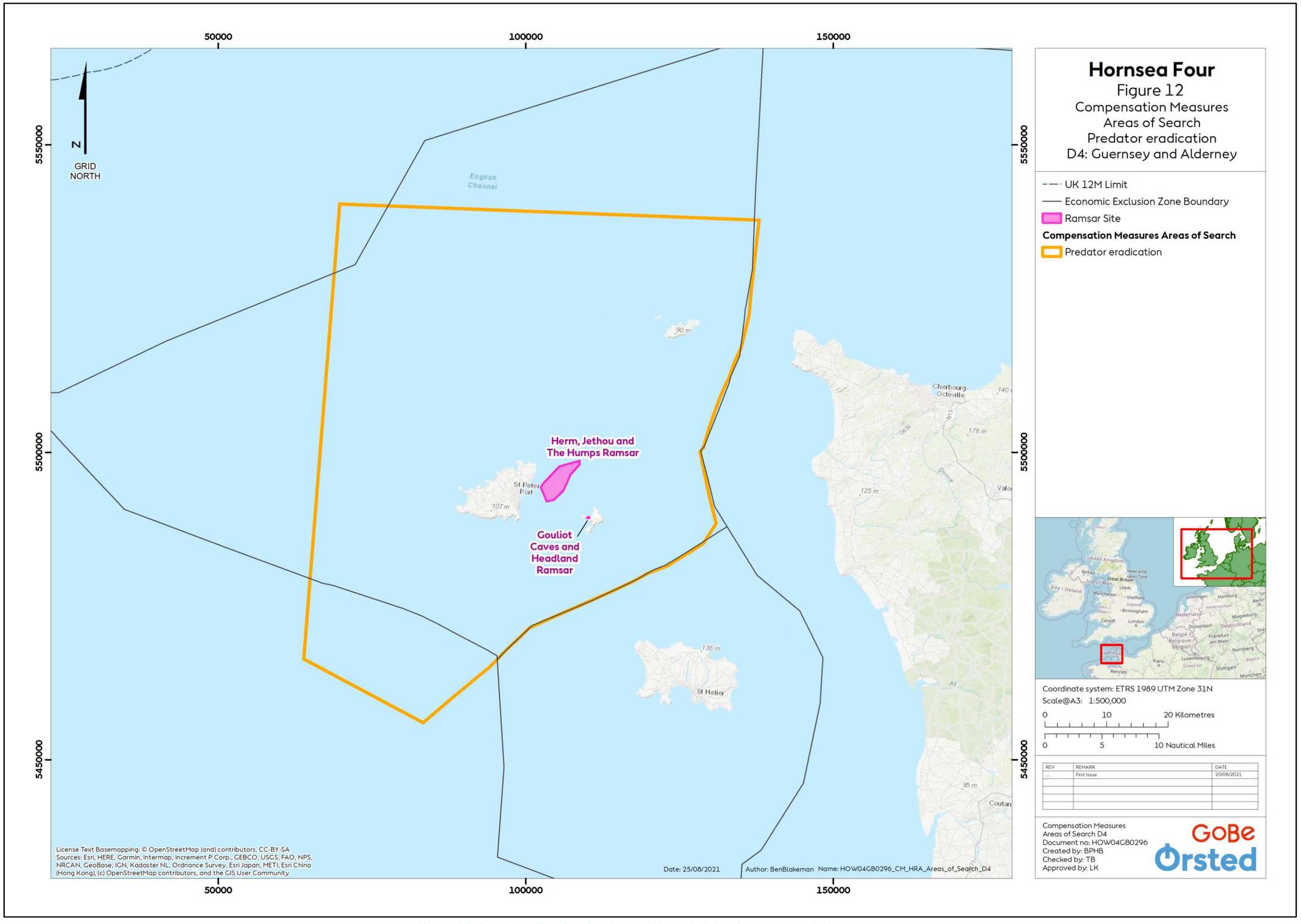


Figure 12: Predator Eradication Area of Search D4 – Guernsey and Aldernery.

1.5.9 Resilience Measure – Fish Habitat Enhancement (Seagrass)

1.5.9.1 Fish habitat enhancement (as a concept) seeks to improve vital habitats for fish species such as those that provide spawning or nursery grounds, with an aim of increasing the productivity of fish populations. This in turn will increase prey abundance for many seabird species (e.g. kittiwakes, guillemots) who are known to forage in coastal shallow water areas when nesting (Bugge et al. 2011; Redfern and Bevan 2014) and consume young fish known to be abundant in seagrass (Bugge et al. 2011; Lilley and Unsworth 2014). Therefore, the restoration of seagrass habitats is being considered as a potential Resilience Measure to boost key forage fish densities for kittiwake, Northern gannet, guillemot and razorbill breeding adults to compensate for the estimated impact of Hornsea Four.

1.5.9.2 The Applicant recognises the importance of seagrass as a measure that can provide resilience to other compensation measures such as predator eradication, habitat management, Bycatch Reduction and provision of artificial nesting. The Applicant proposes to provide a package of measures that will support the seabird populations such as kittiwake, gannet, guillemot and razorbill locally and in the North Sea. The measures will be designed to seek opportunities to be spatially co-located to maximise the benefits of the measures and located to ensure the overall coherence of the network is maintained. The Applicant is exploring opportunities to expand existing seagrass restoration projects that are already underway and opportunities to create new projects with the academic community that could potentially improve the resilience of the compensation measure.

1.5.9.3 The site selection process for these seagrass locations is outlined in the 'without prejudice' Derogation Case (specifically **B2.8.5 Compensation measures for FFC SPA: Fish Habitat Enhancement: Ecological Evidence**). The purpose of the site selection process has been to identify areas supporting all the target seabird species and are suitable for seagrass restoration projects. The resulting AoS for seed collection and/or seagrass restoration are shown in **Figure 13** - **Figure 19**, with these areas consistently supporting all of the target seabird species, providing options for seagrass restoration as well as supporting other compensation measures. Specifically, potential existing seagrass meadows located within proximity of the primary razorbill and guillemot compensation measures (i.e. bycatch and predator eradication), with reported connectivity with the wider site network and the North Sea populations including the Solent, Channel Islands, Cornwall, Isles of Scilly, Essex, Rathlin Island and Humber Estuary. All of these locations are being considered for potential feasibility trails and future implementation.

1.5.9.4 Consultation will commence with conservation and ornithological groups with local knowledge and expertise. The detail of the continued site selection process and consultation is presented within **B2.9: Record of Consultation**.

Feasibility

1.5.9.5 Prior to any field studies commencing, detailed feasibility studies will be undertaken to assess the physical parameters for seagrass to be restored. These studies will be complemented by further stakeholder engagement. The Applicant recognises the need for feasibility studies to inform site selection and methodology to increase the likelihood of a successful restoration programme and efficacy of the compensation measure (with monitoring discussed below). Factors that will be considered prior to restoration efforts

being initiated include looking for sites sheltered from wave action, with good water quality, suitable topographical and hydromorphological conditions (including sedimentation rates, sufficient nutrients and available light), and avoidance of sites with activities that could cause significant physical disturbance.

1.5.9.6 A key component of the fish habitat enhancement compensation measure will be research, to gather evidence to contribute towards filling current knowledge gaps. We have identified a number of initial potential research projects (in addition to feasibility studies) that the research could cover ~~including:~~including foraging seagrass habitat study for seabirds including species counts, behavioural observations and habitat mapping, fish surveys within seagrass meadows using seine and/or fyke netting, further seabird diet studies, and migratory fish tagging to understand fish movements.

Restoration techniques

1.5.9.7 The Applicant is considering two techniques by which to restore seagrass habitats: replanting and reseeding.

1.5.9.8 Seagrass restoration has been formally conducted for over 50 years and the means of doing this can principally be split into two major techniques: reseeding and replanting. Both techniques have their relative merits and have exhibited varying levels of success. Reseeding generally relates to the collection and targeted redistribution (and sometimes processing) of wild seed. Seeds can be directly deployed from the boat and often hessian bags are used to help anchor the seeds in place during germination. It is expected that up to two vessels would be required for the seagrass restoration at each location.

1.5.9.9 Adult shoot replanting normally involves harvesting plants from an existing meadow and transplanting them to the restoration site. For the replanting process, the reproductive fronds of wild seed is often collected by hand by SCUBA divers. In most cases, shoot planting involves some means of anchoring the shoots to the bottom until the roots can take hold (root into the bottom). Replanting uses either labour intensive diving techniques or various mechanistic approaches to planting various sizes and ages of seagrass plants into new localities. Planting of seedlings in the UK is typically undertaken by a team of divers who are transported to the site by boat.

Monitoring and Adaptive Management

1.5.9.10 Hornsea Four is expected to operate for 35 years following construction. Monitoring of restoration will be essential to demonstrate the efficacy of the compensation measure and if required, the seagrass meadow would be monitored throughout the operational lifespan of the Hornsea Four. The exact method of monitoring will be decided based upon further evidence gathering and discussion with restoration experts and stakeholders. A monitoring programme will be developed and at key stages the results of the restoration will be shared to improve the knowledge and evidence for seagrass restoration.

1.5.9.11 Adaptive management is an iterative process which combines management measures and subsequent monitoring with the aim of improving effectiveness whilst also updating knowledge and improving decision making over time. Adaptive management will be an important component of the compensation measure and will be used as a method to address unforeseen issues or deviations from expected time scales (i.e. additional infill

planting required).

1.5.9.12 It is assumed that any onshore access to the area chosen for seagrass restoration will be through existing highways and/or footpaths. It is considered that no new access roads will be required and that no construction is required as part of the measure. Any requirement for vehicle movements during site suitability surveys, the restoration process or subsequent monitoring are considered to be negligible. Therefore, onshore impacts have been scoped out of the assessment.

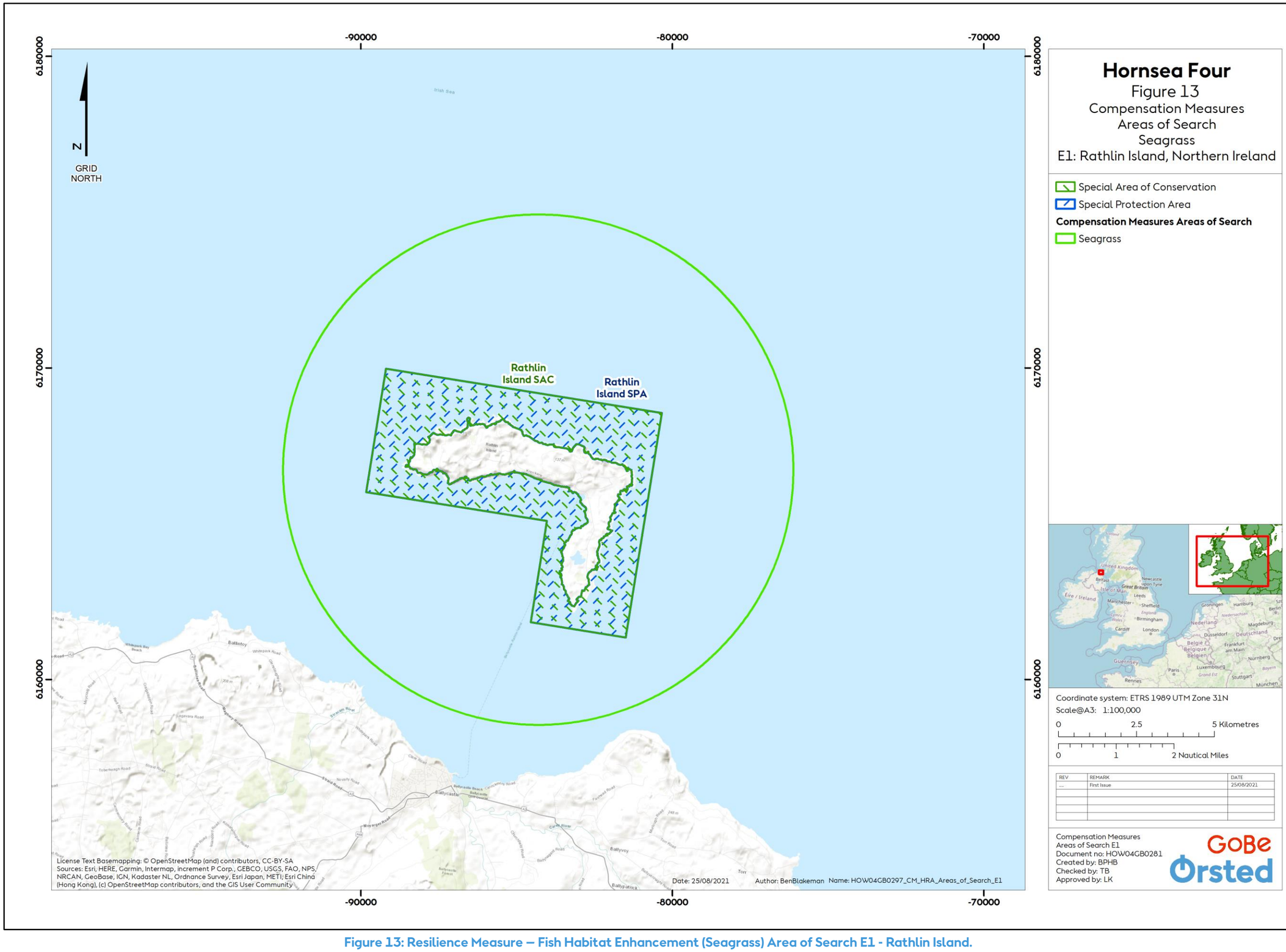


Figure 13: Resilience Measure – Fish Habitat Enhancement (Seagrass) Area of Search E1 - Rathlin Island.

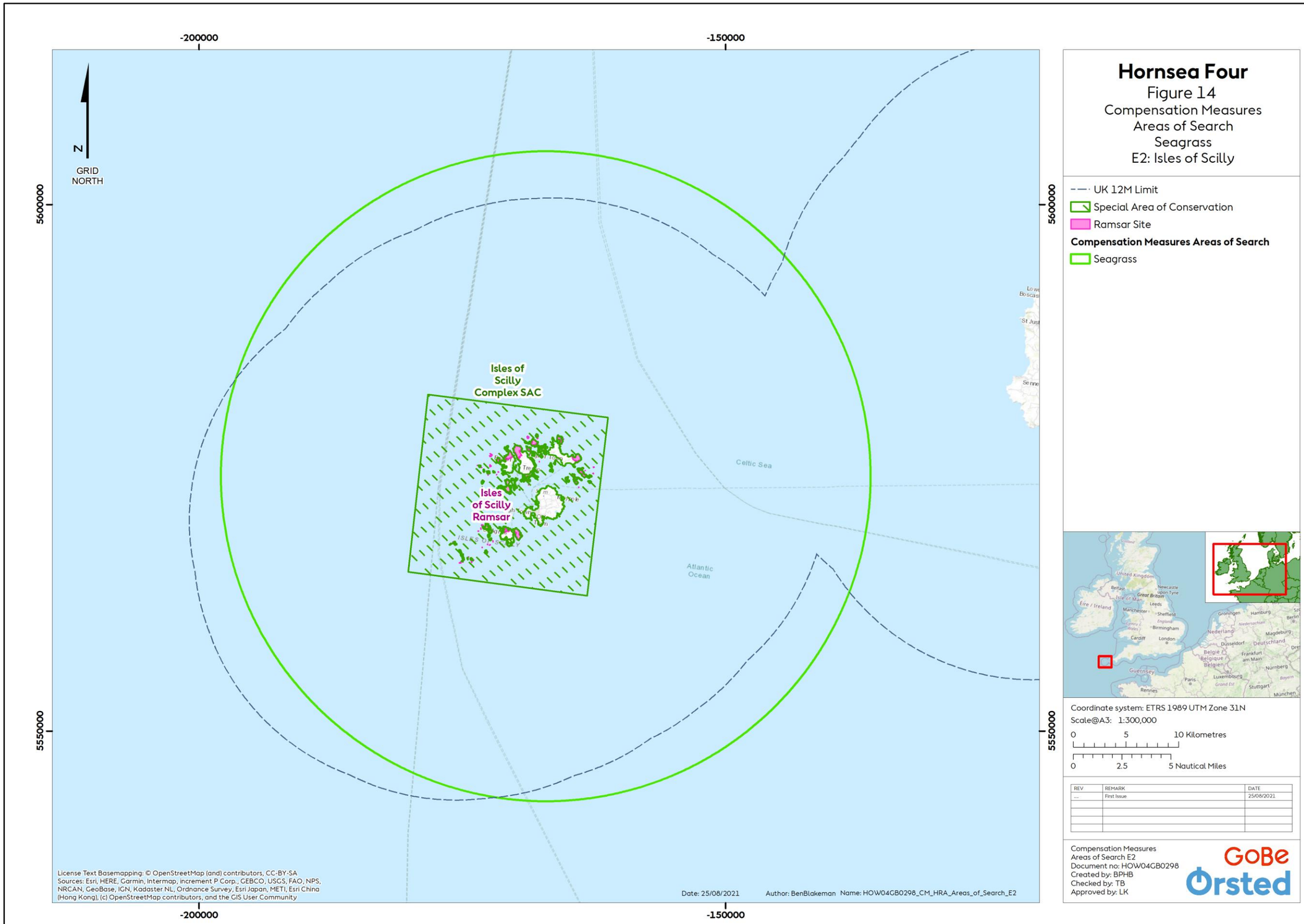
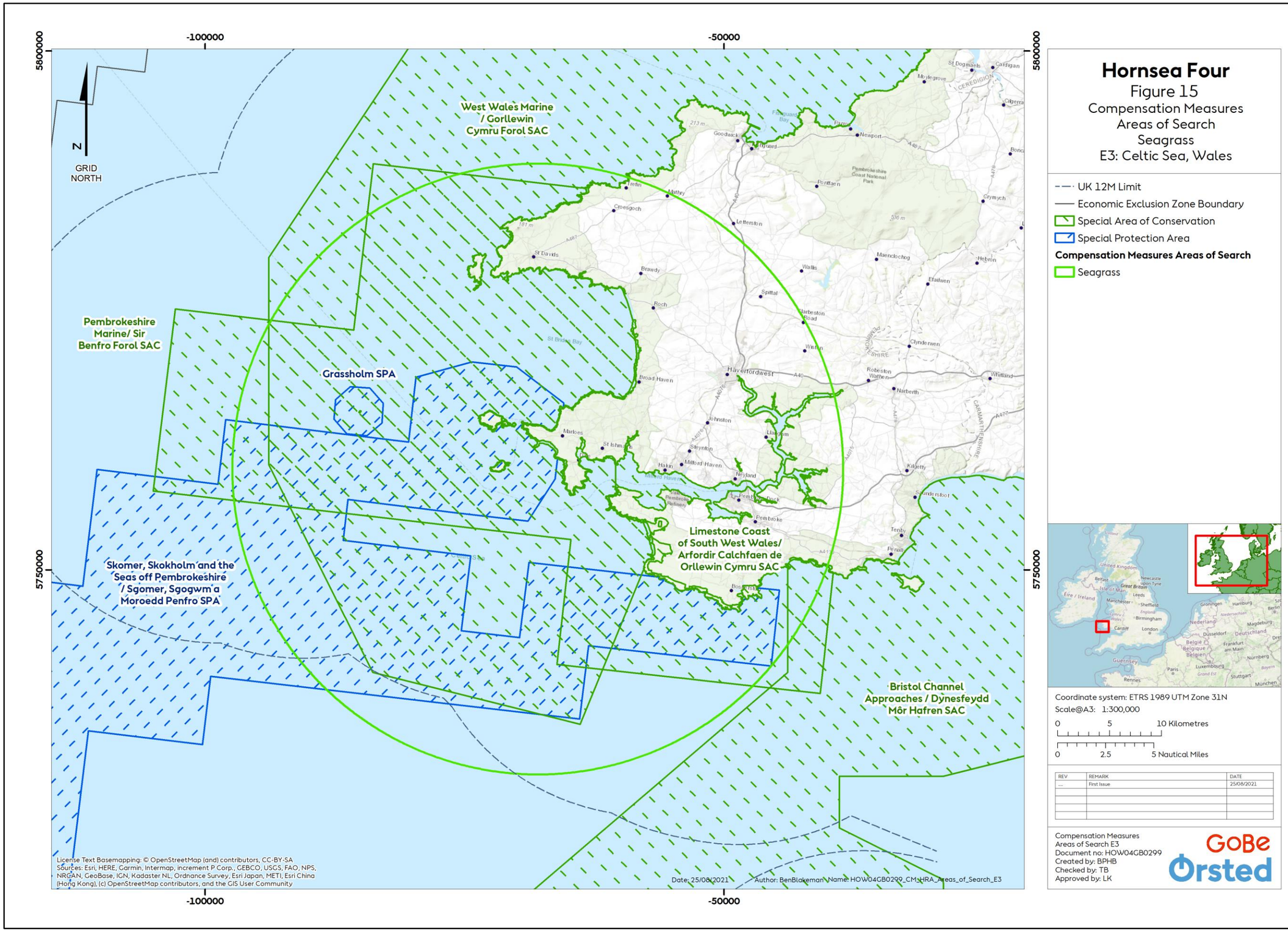


Figure 14: Resilience Measure – Fish Habitat Enhancement (Seagrass) Area of Search E2 – Isles of Scilly.



Hornsea Four
Figure 15
Compensation Measures
Areas of Search
Seagrass
E3: Celtic Sea, Wales

- UK 12M Limit
- Economic Exclusion Zone Boundary
- Special Area of Conservation
- Special Protection Area

Compensation Measures Areas of Search

- Seagrass

Coordinate system: ETRS 1989 UTM Zone 31N
Scale@A3: 1:300,000

0 5 10 Kilometres

0 2.5 5 Nautical Miles

REV	REMARK	DATE
...	First Issue	25/08/2021

Compensation Measures
Areas of Search E3
Document no: HOW04GB0299
Created by: BPHB
Checked by: TB
Approved by: LK

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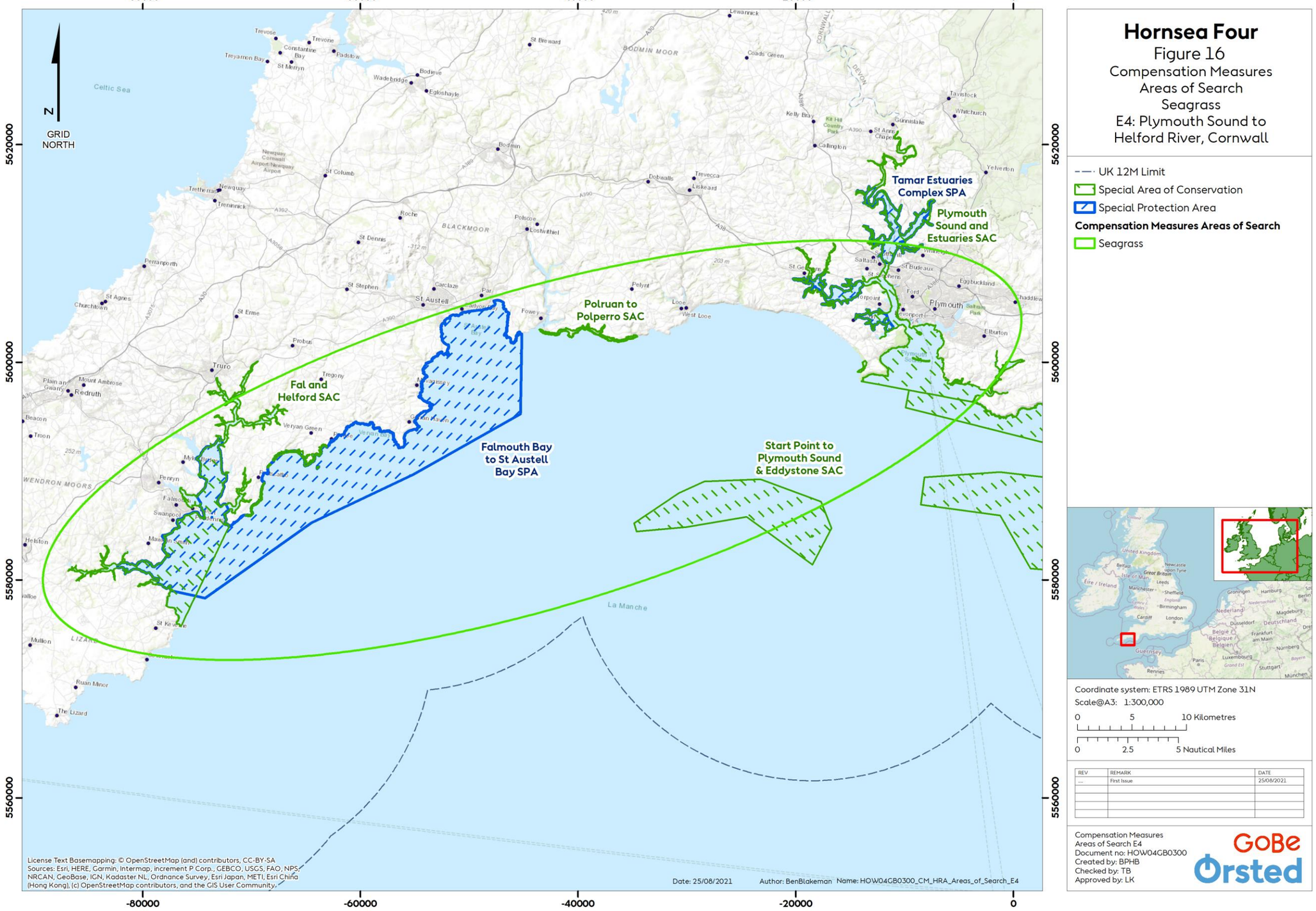
Figure 15: Resilience Measure – Fish Habitat Enhancement (Seagrass) Area of Search E3 – Celtic Sea, Wales.



Hornsea Four

Figure 16

Compensation Measures
Areas of Search
Seagrass
E4: Plymouth Sound to
Helford River, Cornwall

- UK 12M Limit
- Special Area of Conservation
- Special Protection Area

Compensation Measures Areas of Search

- Seagrass

Coordinate system: ETRS 1989 UTM Zone 31N
Scale@A3: 1:300,000

0 5 10 Kilometres

0 2.5 5 Nautical Miles

REV	REMARK	DATE
...	First Issue	25/08/2021

Compensation Measures
Areas of Search E4
Document no: HOW04GB0300
Created by: BPHB
Checked by: TB
Approved by: LK

GOBe Ørsted

Figure 16: Resilience Measure – Fish Habitat Enhancement (Seagrass) Area of Search E4 - Plymouth Sound to Helford River.

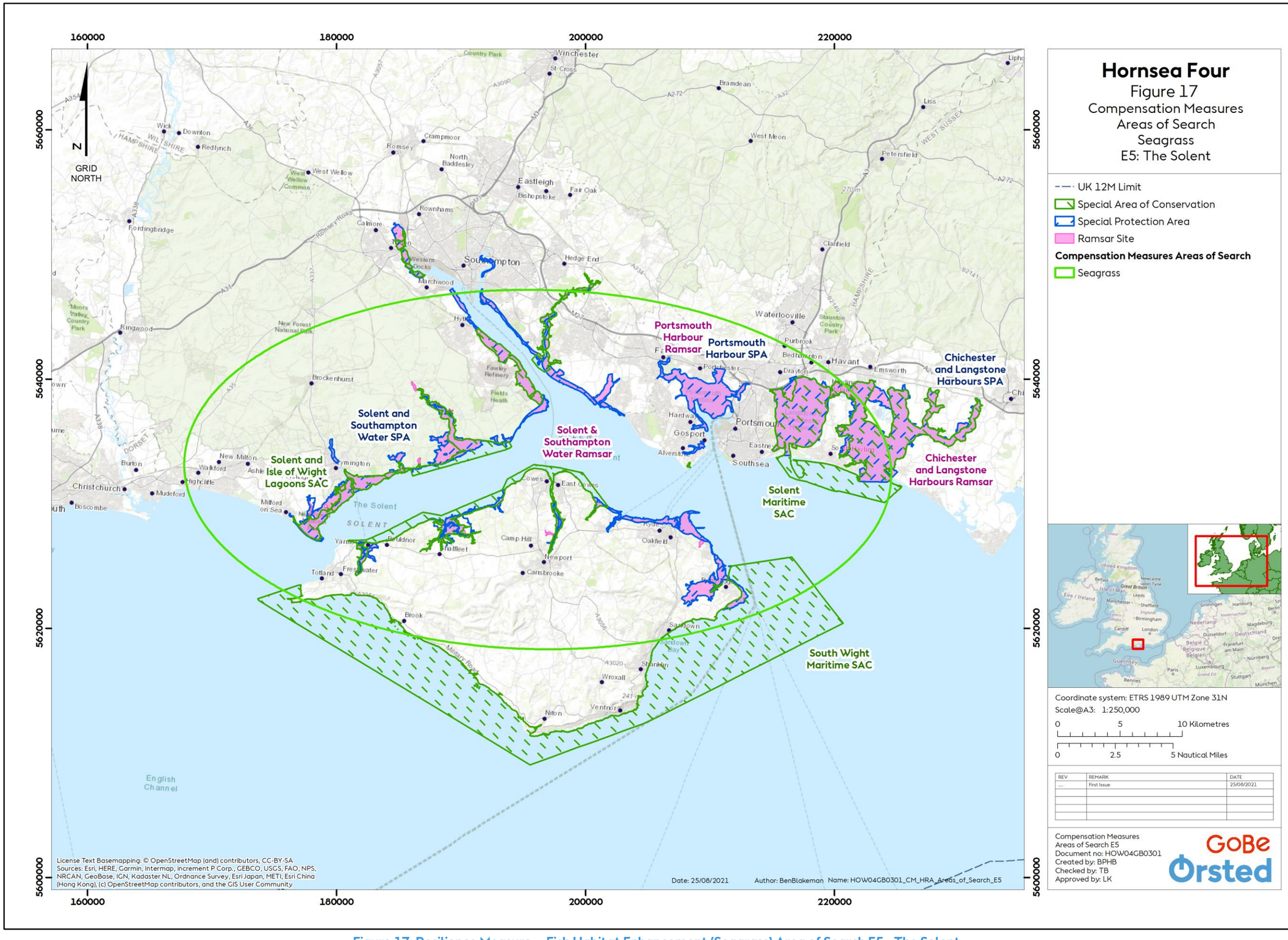


Figure 17: Resilience Measure – Fish Habitat Enhancement (Seagrass) Area of Search E5 - The Solent.

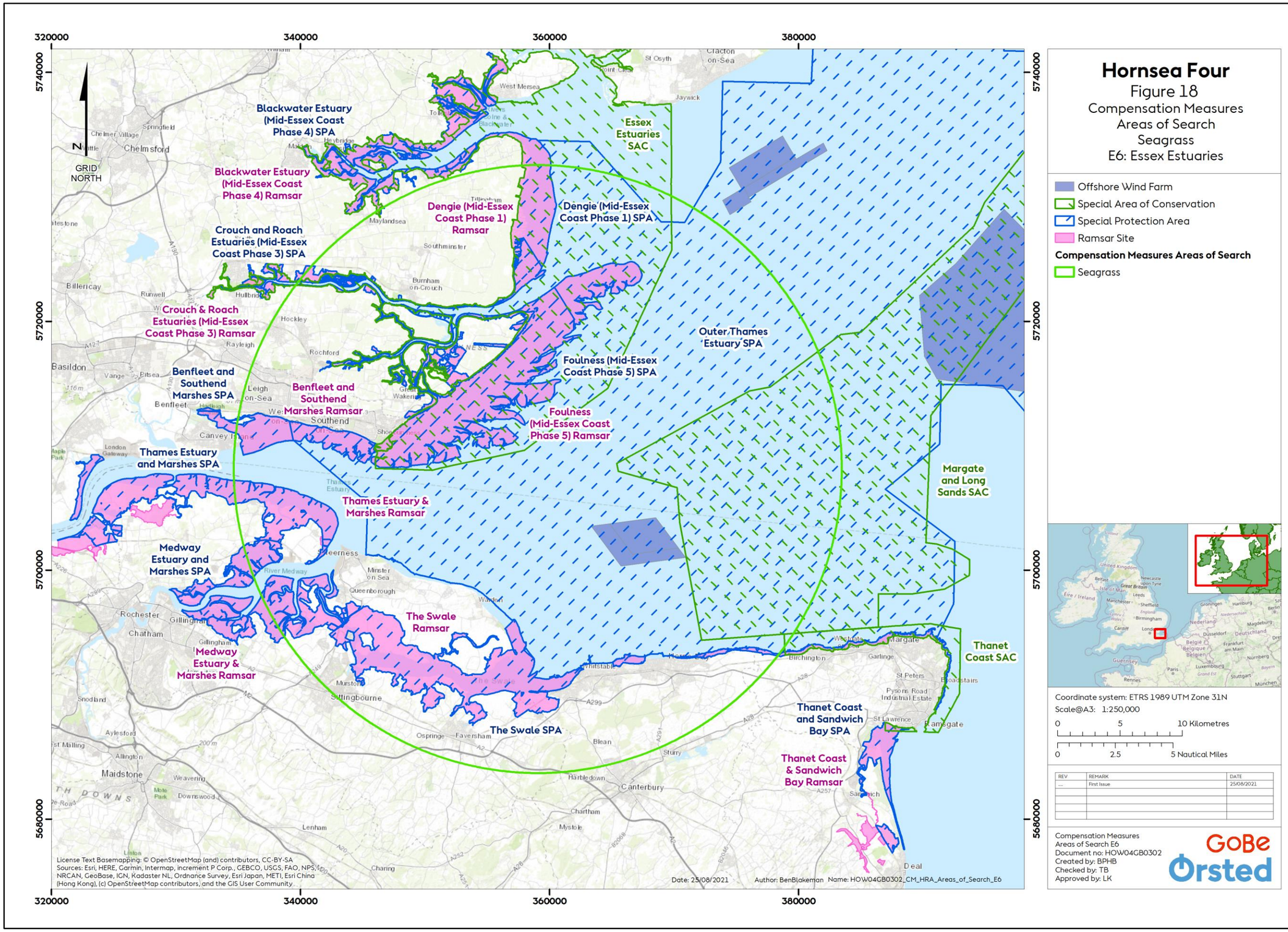


Figure 18: Resilience Measure – Fish Habitat Enhancement (Seagrass) Area of Search E6 – Essex Estuaries.

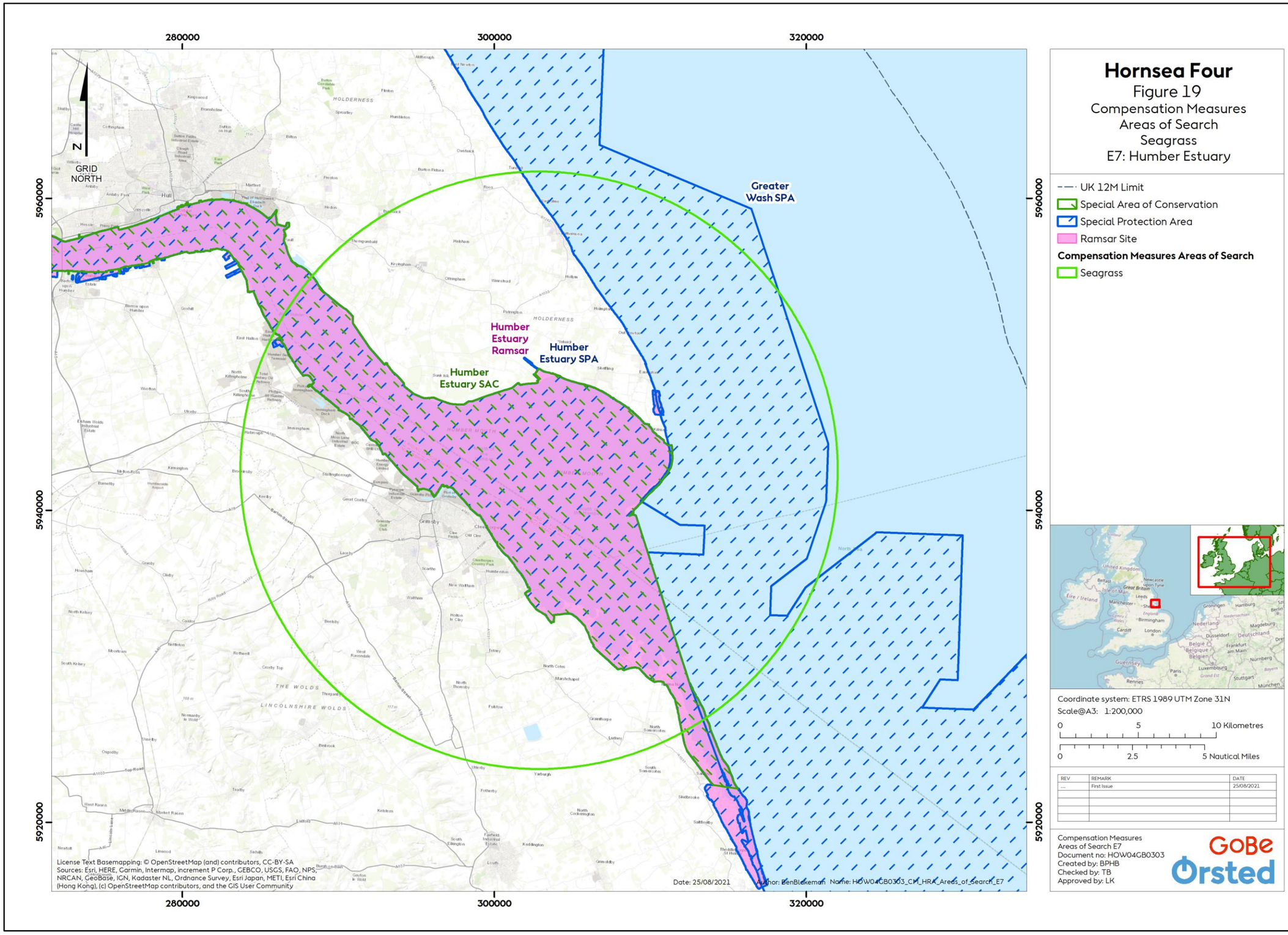


Figure 19: Resilience Measure – Fish Habitat Enhancement (Seagrass) Area of Search E7 – Humber Estuary.

2 Habitats Regulations Assessment Process

2.1 Legislative Context

2.1.1.1 The legislative context for HRA, including the relevant articles of legislation, is detailed within the RIAA (**B2.2: Report to Inform Appropriate Assessment**) with that information not repeated here.

2.2 The Habitats Regulations Process

2.2.1.1 The HRA process is detailed within the RIAA (**B2.2: Report to Inform Appropriate Assessment**), with that information not repeated here beyond inclusion of **Figure 20**, reproduced from PINS Advice Note Ten 'Habitats Regulations Assessment relevant to nationally significant infrastructure projects' (Version 8, November 2017). This clearly defines HRA as a step by step process; the current report is concerned with Stage 1 (screening) and Stage 2 (Appropriate Assessment) only with no requirement to progress to subsequent stages identified.

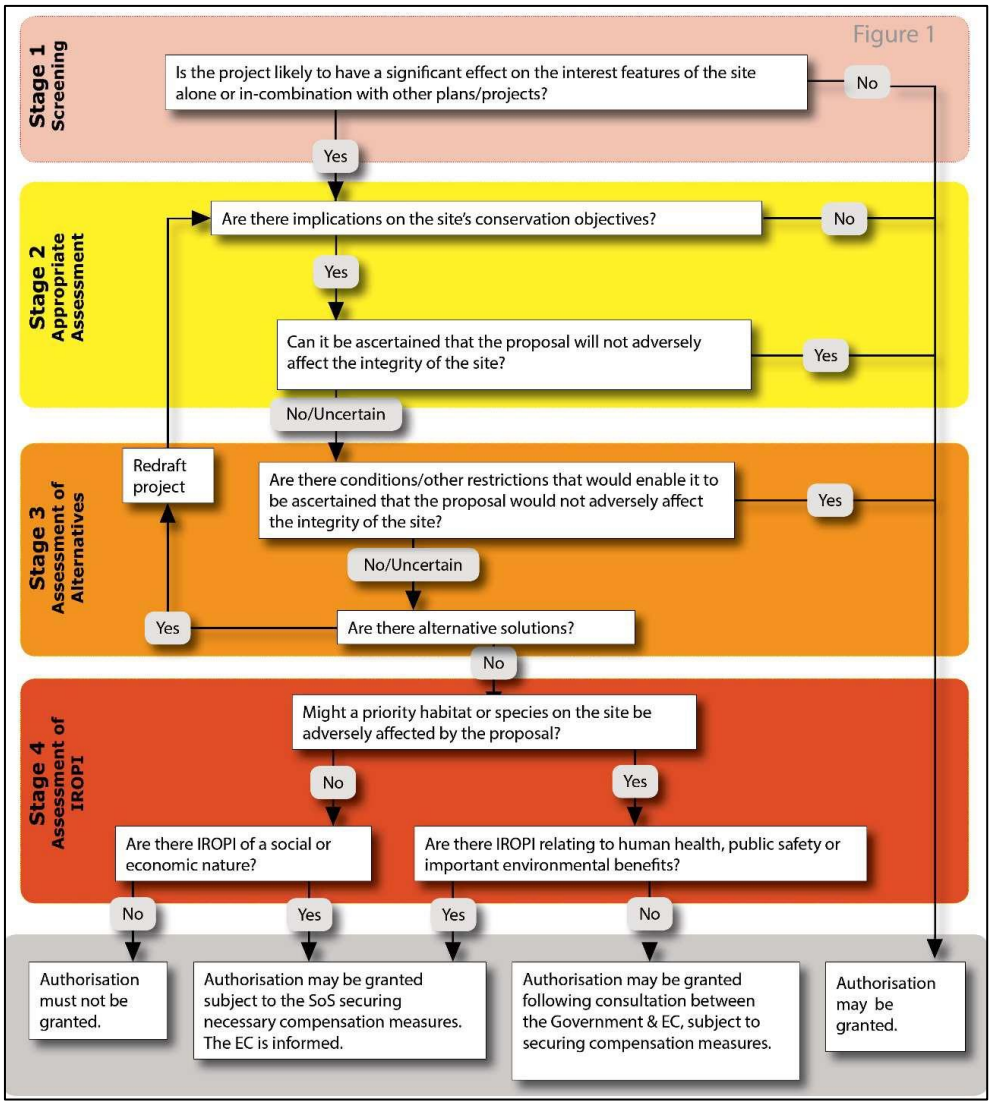


Figure 20: Four stage HRA process (The Planning Inspectorate 2016).

2.3 Approach to Screening (HRA Stage 1)

2.3.1 Introduction

2.3.1.1 The requirements for Stage 1 screening are detailed within the RIAA (**B2.2: Report to Inform Appropriate Assessment**). That information is not repeated here in full, with the exception of a few key points below.

2.3.1.2 For consideration of in-combination aspects, it is assumed for screening purposes that where potential for LSE applies alone, that potential for LSE applies in-combination. It is recognised that there remains the potential for an effect which does not result in potential LSE alone to contribute to a potential LSE in-combination; however no such effects have been identified for the compensation measures.

2.3.1.3 Due to the scale of the various AoS, the number of sites included and uncertainty on location(s) for the potential Compensation Measures, the approach to this document follows a similar approach to that applied for plan-level HRA screening, as developed by The Crown Estate for offshore wind leasing rounds. This plan-level approach using regions for screening is useful as these large areas are likely to be similar in their biogeographic characteristics and Compensation Measures proposed within them are likely to have a similar screening profile, that is the list of European sites and their features screened in for each of those Compensation Measures is expected to be similar (although not identical). Whilst the likely magnitude of any impact on those European sites and their features might vary between Compensation Measures, this is not relevant to the identification of LSE using a simple, precautionary criterion of connectivity.

2.3.1.4 An overview of the approach to this Compensation Measures HRA process is provided in **Figure 21**.

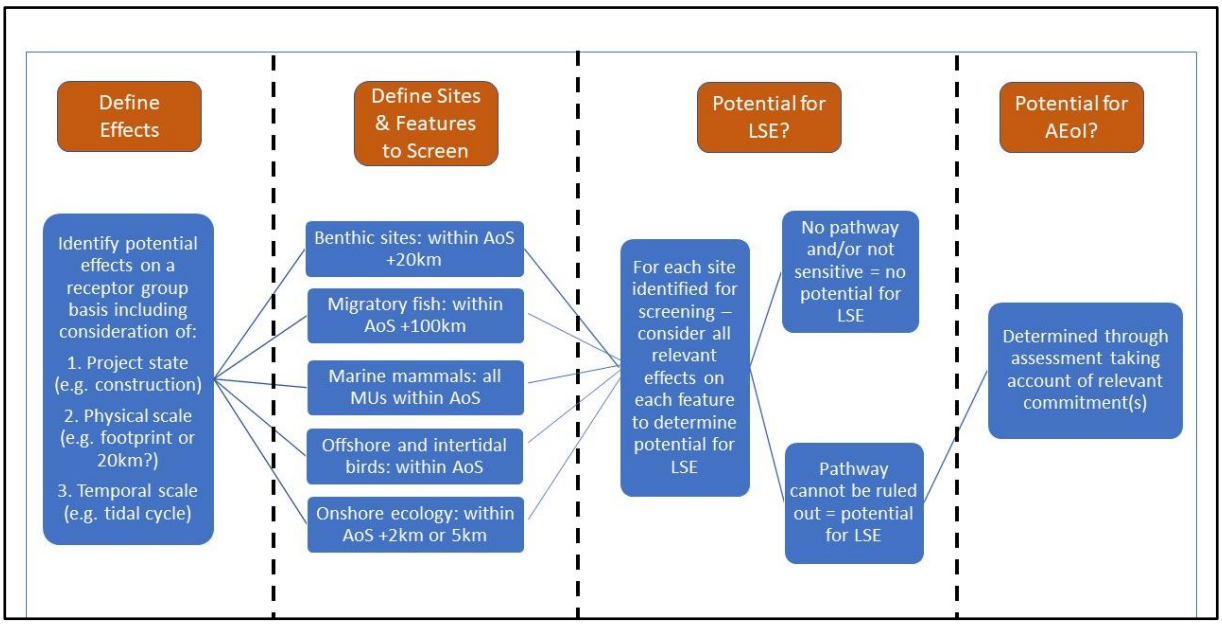


Figure 21: Compensation Measures HRA Process

2.3.2 Identification of Potential Effects

2.3.2.1 Considerable experience and knowledge exists from previous offshore wind farm projects,

as well as other onshore and offshore developments, with regard to the potential effects that may result from the installation/ construction, implementation/ operation/ maintenance, and decommissioning (where required) of these Compensation Measures. This therefore provides a wealth of knowledge which can be drawn upon by the Applicant when identifying the potential effects that need to be considered through the screening process. In addition, for a number of the designated sites identified, Natural England has prepared site advice packages and supporting documents, which are intended to help with site assessments and the impact of marine activity in sensitive areas. Specifically, the 'advice on operations' documents are relevant here, as these identify the type of effect that specific features are sensitive to. All these sources of information have been drawn together to produce a list of effects that may result from each Compensation Measure and that need to be taken into account when determining the potential for LSE for designated sites and features. The potential effects identified for each Compensation Measure are detailed in **Table 4**.

Table 4: Potential effects from the Compensation Measures on relevant receptor types.

Receptor Type	Potential Effect	Installation/ Construction	Implementation/ Operation/ Maintenance	Decommissioning
New offshore artificial nesting structure				
Annex I habitats (designated benthic habitats)	Temporary habitat loss/disturbance and direct damage e.g. by jack-up vessels and seabed preparation.	✔	✖	✖
	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed e.g. due to seabed preparation and drilling for foundation installation.	✔	✖	✖
	Accidental pollution	✔	✔	✔
	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	✖	✔	✖
	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	✖	✔	✖
	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	✖	✔	✖
	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	✖	✔	✖
	Temporary disturbance or loss of habitat due to operations to remove structure, and associated jack-up operations	✖	✖	✔
	Temporary increases in suspended sediment concentrations and deposition from removal of structure	✖	✖	✔
	Removal of foundation leading to loss of species/habitats colonising the structure.	✖	✖	✔
Annex II species (migratory fish and freshwater pearl mussel)	Temporary habitat loss/disturbance and direct damage e.g. by jack-up vessels and seabed preparation	✔	✖	✖
	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed e.g. due to seabed preparation and drilling for foundation installation	✔	✖	✖
	Underwater noise as a result of foundation installation (i.e. piling) and Unexploded Ordnance clearance resulting in potential effects on fish and shellfish receptors	✔	✖	✖
	Accidental pollution	✔	✔	✔
	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on fish and shellfish ecology.	✖	✔	✖
	Colonisation of foundations and scour protection may affect fish and shellfish ecology.	✖	✔	✖
	Maintenance operations may result in temporary seabed disturbances and potential effects on fish and shellfish ecology.	✖	✔	✖
	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations	✖	✖	✔

Receptor Type	Potential Effect	Installation/ Construction	Implementation/ Operation/ Maintenance	Decommissioning
	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on fish and shellfish ecology.	✖	✖	✔
	Effects on fish and shellfish receptors due to removal of structure leading to loss of hard substrates and structural complexity	✖	✖	✔
	Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors.	✖	✖	✔
Annex II species (marine mammals)	Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals.	✔	✖	✖
	Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals.	✔	✖	✖
	Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals.	✔	✖	✖
	Accidental pollution	✔	✔	✔
	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	✖	✔	✖
	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	✖	✖	✔
	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals	✖	✖	✔
	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	✖	✖	✔
Offshore and Intertidal Ornithology	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	✔	✖	✖
	Accidental pollution	✔	✔	✔
	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	✖	✔	✖
	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	✖	✔	✖
	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	✖	✔	✖

Receptor Type	Potential Effect	Installation/ Construction	Implementation/ Operation/ Maintenance	Decommissioning
	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	✖	✔	✖
	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	✖	✖	✔
Repurposed offshore artificial nesting structure				
Annex I habitats (designated benthic habitats)	Temporary habitat loss/disturbance and direct damage by e.g. by jack-up vessels	✔	✖	✖
	Accidental pollution	✔	✔	✔
	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology	✖	✔	✖
	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology	✖	✖	✔
	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	✖	✖	✔
	Removal of foundation leading to loss of species/ habitats colonising the structure.	✖	✖	✔
Annex II species (migratory fish and freshwater pearl mussel)	Temporary habitat loss/disturbance and direct damage e.g. by jack-up vessels	✔	✖	✖
	Accidental pollution	✔	✔	✔
	Maintenance operations may result in temporary seabed disturbances and potential effects on fish and shellfish ecology.	✖	✔	✖
	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations resulting in potential effects on fish and shellfish ecology.	✖	✖	✔
	Temporary increases in SSCs and deposition from removal of structure resulting in potential effects on fish and shellfish ecology.	✖	✖	✔
	Effects on fish and shellfish receptors due to removal of structure leading to loss of hard substrates and structural complexity	✖	✖	✔
	Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors.	✖	✖	✔
Annex II species (marine mammals)	Increased vessel traffic during repurposing may result in an increase in disturbance to or collision risk with marine mammals.	✔	✖	✖
	Accidental pollution	✔	✔	✔
	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	✖	✔	✖

Receptor Type	Potential Effect	Installation/ Construction	Implementation/ Operation/ Maintenance	Decommissioning
	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals	✗	✗	✓
	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	✗	✗	✓
	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	✗	✗	✓
Offshore and Intertidal Ornithology	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	✓	✗	✗
	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	✓	✓	✓
	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	✗	✗	✓
New onshore artificial nesting structure				
Onshore Ecology	Temporary habitat loss and/or disturbance	✓	✓	✓
	Permanent habitat loss and/ or disturbance	✗	✓	✗
	Dust generation and nitrogen deposition at designated sites from HGVs and plant	✓	✗	✓
Resilience measure – fish habitat enhancement (seagrass)				
Annex I habitats (designated benthic habitats)	Temporary habitat disturbance from planting activities and seabed sampling.	✓	✗	✗
	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	✓	✗	✗
	Change of habitat type following introduction or reinstatement of seagrass.	✗	✓	✗
	Accidental pollution	✓	✓	✗
Annex II species (migratory fish and freshwater pearl mussel)	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	✓	✗	✗
	Temporary habitat disturbance from planting activities and seabed sampling.	✓	✗	✗
	Accidental pollution	✓	✓	✗
Annex II species (marine mammals)	Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals.	✓	✗	✗
	Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals.	✗	✓	✗

Receptor Type	Potential Effect	Installation/ Construction	Implementation/ Operation/ Maintenance	Decommissioning
	Accidental pollution	✓	✓	✗
Offshore and Intertidal Ornithology	The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds.	✓	✗	✗
	The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds.	✗	✓	✗
	Accidental pollution	✓	✓	✗
Predator eradication				
Onshore Ecology	Temporary disturbance through access to undertake predator eradication	✗	✓	✗
	Temporary habitat disturbance from construction / demolition	✓	✗	✓
	Impacts to non-target predator species (i.e. species not known to be detrimental to guillemots and/or razorbills). Potential impacts could occur via consumption of dead poisoned targeted predators or direct ingestion of poison.	✓	✓	✗
Bycatch Reduction technology				
Annex I habitats (designated benthic habitats)	Existing commercial fisheries activity in the area represents the baseline against which any additional impacts as a result of the bycatch measures are considered. No additional impacts are predicted as a result of the bycatch measures.	✗	✗	✗
Annex II species (migratory fish and freshwater pearl mussel)	Existing commercial fisheries activity in the area represents the baseline against which any additional impacts as a result of the bycatch measures are considered. No additional impacts are predicted as a result of the bycatch measures.	✗	✗	✗
Annex II species (marine mammals)	Existing commercial fisheries activity in the area represents the baseline against which any additional impacts as a result of the bycatch measures are considered. No additional impacts are predicted as a result of the bycatch measures.	✗	✗	✗
Offshore and Intertidal Ornithology	Existing commercial fisheries activity in the area represents the baseline against which any additional impacts as a result of the bycatch measures are considered. No additional impacts are predicted as a result of the bycatch measures.	✗	✗	✗

2.3.3 Identification of Sites and Features for Screening

2.3.3.1 In order to identify the sites to be considered for screening, the AoS for each Compensation Measure have been analysed using Geographic Information System (GIS mapping). Sites have been identified by applying the following filters:

- Sites with Annex I features (designated benthic habitats) – within AoS plus 20 km buffer;
- Sites with Annex II species (designated migratory fish feature and/or freshwater pearl mussel feature) - within the AoS plus 100 km buffer;
- Sites with Annex II species (designated marine mammal feature) where the relevant species Management Unit (MU) has physical overlap with the AoS;
- Sites with a designated seabird, wader or wildfowl feature (offshore and intertidal ornithology) feature within the AoS;
- Onshore - sites within a 2km buffer of the AoS have been included, extending to a 5km buffer for sites with bird or bat features.

2.3.3.2 Information on all designated sites identified in this process are provided in **Appendix B**.

2.3.4 Screening for potential LSE

2.3.4.1 The site selection process documented in **Section 2.3.3** generated a list of designated sites and relevant features for which there is a need to consider the potential for LSE in relation to each Hornsea Four Compensation Measure. In addition, in **Table 4**, the likely effects that may result from all phases of each Hornsea Four Compensation Measure (and are relevant to the receptors being considered here) have been identified to enable these to be considered. The screening process combines that information for the project alone and presents the assessment of potential LSE to provide the necessary information for Stage 1 of the HRA process. Where potential for LSE applies alone, it is assumed that potential for LSE applies in-combination.

2.3.4.2 It should be noted that the effects identified for each of the Compensation Measures do not automatically correlate to a potential LSE with respect to one or more designated feature. For an effect to manifest, the receptor needs to be sensitive and there needs to be a pathway. The conclusions on Stage 1 screening, in relation to the identified sites and designated feature(s), are presented in **Section 3** to **Section 6** for each Compensation Measure, with the codes outlined in **Table 5** being used to summarise the conclusions of the screening, drawing on the relevant information available for the designated sites (provided in **Appendix B**).

Table 5: Parameters applied to conclude Potential for LSE.

Table Code	Consideration of Potential LSE
A	There is no pathway to connect the effect to this feature and therefore there is no potential for LSE.
B	The feature is not sensitive to the effect and therefore there is no potential for LSE.
C	Until a works location is finalised, a potential pathway to connect the effect to this feature cannot be ruled out and therefore there is a potential for LSE.

2.4 Approach to Appropriate Assessment (HRA Stage 2)

2.4.1.1 Where the Screening process concludes the potential for a LSE, then there is a requirement for an AA (Stage 2). Stage 1 Screening for the Hornsea Four Compensation Measures has identified the possibility of LSE for certain features and effects. The required Stage 2 AA will be conducted by the SoS, with the information necessary to inform that assessment provided within this document in **Section 3** to **Section 6** for each Compensation Measure.

2.4.1.2 With respect to the assessment in-combination, it is assumed that where potential for LSE applies alone then potential for LSE applies in-combination (**paragraph 2.3.1.2**). However, until locations for Compensation Measures are finalised, it is not possible to identify relevant plans and projects to include within an in-combination assessment. As previously noted, the Applicant will comply with the relevant consenting and licensing requirements to implement each Compensation Measure as appropriate, which will include carrying out a HRA at that time, if required.

2.4.1.3 It should be noted, however, that ultimately, the Compensation Measures will not be consented through the Hornsea Four DCO application process and so far as applicable, will be subject to standalone EIA and HRA processes as part of their own consenting process (for example a Marine Licence application and/or Planning Application). As part of that consenting process, further assessment work will be undertaken, including consideration of in-combination effects, based on refined design and methodology details.

3 Habitats Regulations Assessment – New Offshore Artificial Nesting Structure

3.1 Assessment of the Potential for Likely Significant Effect (LSE) - New Offshore Artificial Nesting Structure

3.1.1.1 Screening for potential LSE considers the effects that may result during installation/ construction, implementation/ operation/ maintenance and decommissioning of the new offshore artificial nesting structure Compensation Measure, as defined in **Section 2.3.2,** in relation to the designated sites identified in **Section 2.3.3**. This section combines that information to determine the potential LSE for the project alone. Key to the potential for LSE are the clear presence or absence of a pathway, linking the effect to a designated site or feature, together with known sensitivity of the feature to the effect. The conclusions on the potential for LSE are presented in **Table 6**, on a site by site basis.

Table 6: Screening based on potential LSE from New Offshore Artificial Nesting Structure in the southern North Sea AoS (A1).

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Breydon Water Ramsar	Offshore and intertidal ornithology receptors	• Criterion 5: Internationally important waterfowl assemblage (greater than 20,000 birds); and • Criterion 6: Over winter the site regularly supports internationally important numbers of: Bewick's Swan (*Cygnus columbianus bewickii*) and Lapwing (*Vanellus vanellus*).	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
Gibraltar Point Ramsar	Designated benthic habitats	• Criterion 1: The dune and saltmarsh habitats present on the site are representative of all the stages of colonisation and stabilisation. There is a fine example of freshwater marsh containing sedges *Carex* spp., rushes Juncus spp., and ferns, including adder's-tongue fern *Ophioglossum vulgatum*. Also most northerly example of nationally rare saltmarsh/dune communities containing sea heath *Frankenia laevis*, rock sea lavender *Limonium binervosum* and shrubby seablite *Suaeda vera*. • Ramsar Criterion2: Supports an assemblage of wetland invertebrate species of which eight species are listed as rare in the British Red Data Book and a further four species listed as vulnerable.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental pollution.	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	C	**Potential for LSE**
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter:	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		53072 waterfowl (5 year peak mean 1998/99-2002/2003). • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Grey plover , *Pluvialis squatarola*; Sanderling , *Calidris alba*; Bar-tailed godwit, and *Limosa lapponica lapponica*. Species with peak counts in winter:Dark-bellied brent goose, *Branta bernicla bernicla*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Red knot, *Calidris canutus islandica*.	displacement from important foraging and habitat areas of birds; and • Accidental pollution.	habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	traffic may result in disturbance or displacement from important foraging and habitat areas of birds.		
Humber Estuary Ramsar	Designated benthic habitats	• Ramsar Criterion 1: The site is a representative example of a near-natural estuary with the several named component habitats including: dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes, and coastal brackish/saline lagoons.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	C	**Potential for LSE**
	Migratory fish species	• Criterion 8: Estuary acts as an important migration route for both river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*) between coastal waters and their spawning areas	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation;	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on fish and shellfish ecology; • Colonisation of foundations and scour protection may affect fish and shellfish ecology; and • Maintenance operations may result in temporary seabed disturbances and	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
			• Underwater noise as a result of foundation installation (i.e. piling) and Unexploded Ordnance clearance resulting in potential effects on fish and shellfish receptors; and • Accidental pollution	potential effects on fish and shellfish ecology.	resulting in potential effects on fish and shellfish ecology; • Effects on fish and shellfish receptors due to removal of structure leading to loss of hard substrates and structural complexity; and • Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors.		
	Marine mammals	• Citerion 3: The site supports a breeding colony of grey seals (*Halichoerus grypus*) at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast	• Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals; • Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals; • Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals; and • Accidental pollution.	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	• Accidental pollution; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals; • Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals; and • Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	C	**Potential for LSE**
	Offshore and Intertidal ornithology receptors	• Criterion 5: Assemblages of international importance: 153,934 waterfowl, non-breeding season (5 year peak mean from 1996/97 to 2000/01); • Criterion 6: Common shelduck (*Tadorna tadorna*), Eurasian golden plover (*Pluvialis apricaria*), Red knot (*Calidris canutus*), *islandica* subspecies, Dunlin (*Calidris alpina*), Black-tailed godwit (*Limosa limosa*), Bar-tailed godwit (*Limosa lapponica*) and Common redshank (*Tringa totanus*).	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
				displacement from important foraging and habitat areas of birds.			
North Norfolk Coast Ramsar	Designated benthic habitats	• Ramsar criterion 1: The site is one of the largest expanses of undeveloped coastal habitat of its type in Europe. It is a particularly good example of a marshland coast with intertidal sand and mud, saltmarshes, shingle banks and sand dunes. There are a series of brackish-water lagoons and extensive areas of freshwater grazing marsh and reed beds.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental Pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	C	**Potential for LSE**
		• Ramsar criterion 2: Supports at least three British Red Data Book and nine nationally scarce vascular plants, one British Red Data Book lichen and 38 British Red Data Book invertebrates.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental Pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE
	Offshore and Intertidal ornithology receptors	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 98462 waterfowl (5 year peak mean 1998/99-2002/2003) • Ramsar criterion 6 species/ populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species regularly supported during the breeding season: Sandwich tern , *Sterna sandvicensis sandvicensis;*	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration;	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		Common tern , *Sterna hirundo hirundo*; and Little tern , *Sterna albifrons albifrons*. Species with peak counts in spring/autumn: Red knot , *Calidris canutus islandica*. Species with peak counts in winter: Pink-footed goose , *Anser brachyrhynchus*; Dark-bellied brent goose, *Branta bernicla bernicla*; Eurasian wigeon , *Anas penelope*; and Northern pintail , *Anas acuta*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Ringed plover , *Charadrius hiaticula*; Sanderling , *Calidris alba*; and Bar-tailed godwit , *Limosa lapponica lapponica*.		• The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.			
Teesmouth and Cleaveland Coast Ramsar	Offshore and intertidal ornithology receptors	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 9528 waterfowl (5 year peak mean 1998/99-2002/2003). • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank, *Tringa totanus totanus*. Species with peak counts in winter: Red knot , *Calidris canutus islandica*.	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
The Wash Ramsar	Designated benthic habitats	• Ramsar criterion 1: The Wash is a large shallow bay comprising very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels. It is the largest estuarine system in Britain.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		• Ramsar criterion 3: Qualifies because of the inter-relationship between its various components including saltmarshes, intertidal sand and mud flats and the estuarine waters. The saltmarshes and the plankton in the estuarine water provide a primary source of organic material which, together with other organic matter, forms the basis for the high productivity of the estuary.	preparation and drilling for foundation installation; and • Accidental pollution.	and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure and vessel movements (e.g. ballast water).	concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.		
	Offshore and intertidal ornithology receptors	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 292,541 waterfowl (5 year peak mean 1998/99-2002/2003). • Ramsar criterion 6: Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank, *Tringa totanus totanus*; Eurasian curlew, *Numenius arquata arquata*, Eurasian oystercatcher , *Haematopus ostralegus ostralegus*; Grey plover , *Pluvialis squatarola*; Red knot , *Calidris canutus islandica*; and Sanderling , *Calidris alba*. Species with peak counts in winter: Black-headed gull, Larus ridibundus; Common eider , *Somateria ollissima mollissima*; Bar-tailed godwit , *Limosa lapponica lapponica*; Common shelduck , *Tadorna tadorna*; Dark-bellied brent goose, *Branta bernicla bernicla*; Dunlin , *Calidris alpina alpina*; and Pink-footed goose , *Anser brachyrhynchus*. Species/ populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Black-tailed godwit, *Limosa limosa islandica*; and Ringed plover , *Charadrius*	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		hiaticula. Species with peak counts in winter: European golden plover , *Pluvialis apricaria altifrons*; and Northern lapwing , *Vanellus vanellus*.					
Beast Cliff – Whitby (Robin Hood's Bay) SAC	Annex I Habitats (Designated Benthic Habitats)	Vegetated sea cliffs of the Atlantic and Baltic Coasts	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE
Dogger Bank SAC	Annex I Habitats (Designated benthic habitats)	Sandbanks which are slightly covered by sea water all the time	• Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental pollution; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; and • Temporary increases in suspended sediment concentrations and deposition from removal of structure • .	C	**Potential for LSE**
			• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation;	• Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology	• Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Doggersbank SAC	Annex I Habitats (Designated benthic habitats)	Reefs, and Submerged or partially submerged sea caves	• Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental pollution; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; and • Temporary increases in suspended sediment concentrations and deposition from removal of structure.	C	**Potential for LSE**
			• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation;	• Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology	• Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE
		Vegetated sea cliffs of the Atlantic and Baltic Coasts	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental pollution	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Flamborough Head SAC	Annex I habitats (designated benthic habitats)	Reefs, and Submerged or partially submerged sea caves.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental pollution.	• Accidental Pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	C	**Potential for LSE**
		Vegetated sea cliffs of the Atlantic and Baltic Coasts	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental pollution	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE
Haisborough, Hammond and Winterton SAC	Annex I habitats (designated benthic habitats)	Sandbanks which are slightly covered by sea water all the time, and Reefs.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental pollution.	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology;	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
				• Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).			
Humber Estuary SAC	Annex I habitats (designated benthic habitats) as primary features and as qualifying features	• Estuaries, Mudflats and sandflats not covered by seawater at low tide; • Sandbanks which are slightly covered by sea water all the time; • Salicornia and other annuals colonizing mud and sand; • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*);.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	C	**Potential for LSE**
		• Embryonic shifting dunes; • Coastal lagoons (*Priority feature); • "Shifting dunes along the shoreline with Ammophila arenaria (""white dunes"")"; • "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" (*Priority feature); and • Dunes with *Hippopha rhamnoides*	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental pollution	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
	Annex II species as a qualifying feature (migratory fish species)	Sea lamprey, *Petromyzon marinus*, River lamprey, *Lampetra fluviatilis*	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; • Underwater noise as a result of foundation installation (i.e. piling) and Unexploded Ordnance clearance resulting in potential effects on fish and shellfish receptors; and • Accidental pollution	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on fish and shellfish ecology; • Colonisation of foundations and scour protection may affect fish and shellfish ecology; and • Maintenance operations may result in temporary seabed disturbances and potential effects on fish and shellfish ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on fish and shellfish ecology; • Effects on fish and shellfish receptors due to removal of structure leading to loss of hard substrates and structural complexity; and • Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors.	C	**Potential for LSE**
	Annex II species as a qualifying feature (marine mammals)	Grey seal, *Halichoerus grypus*	• Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals; • Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals; • Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals; and • Accidental pollution.	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	• Accidental pollution; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals; • Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals; and • Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	C	**Potential for LSE**
Inner Dowsing, Race Bank and North Ridge SAC	Annex I habitats (designated benthic habitats)	Sandbanks which are slightly covered by sea water all the time, and reefs	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology;	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
				• Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Removal of foundation leading to loss of species/habitats colonising the structure.		
Klaverbank SAC	Annex I habitats (designated benthic habitats)	Reefs	• Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental pollution; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; and • Temporary increases in suspended sediment concentrations and deposition from removal of structure.	C	**Potential for LSE**
			• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation;	• Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology	• Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE
		• Coastal lagoons (*Priority feature) • Perennial vegetation of stony banks, • Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*) • Embryonic shifting dunes, • "Shifting dunes along the shoreline with *Ammophila arenaria* (""white dunes"")", • "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" (*Priority feature) and • Humid dune slacks.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental pollution	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
	Annex II species for primary selection (Marine mammals)	• Grey seal, *Halichoerus grypus*, • Harbour seal, *Phoca vitulina*; and • Harbour porpoise, *Phocoena phocoena*	• Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals; • Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals; • Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals; and • Accidental pollution.	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	• Accidental pollution; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals; • Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals; and • Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	C	**Potential for LSE**
North Norfolk Sandbanks and Saturn Reef SAC	Annex I habitats (designated benthic habitats)	• Sandbanks which are slightly covered by sea water all the time; and • Reefs.	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental pollution.	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	C	**Potential for LSE**
Southern North Sea SAC	Annex II species for primary selection (Marine mammals)	Harbour porpoise (*Phocoena phocoena*)	• Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals; • Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals;	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	• Accidental pollution; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals; • Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals; and • Increased suspended sediments arising from decommissioning	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
			• Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals; and • Accidental pollution.		activities may impair the foraging ability of marine mammals.		
The Wash and North Norfolk Coast SAC	Annex I habitats (designated benthic habitats)	• Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; • Large shallow inlets and bays; • Reefs; • Salicornia and other annuals colonizing mud and sand; and • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental Pollution.	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	C	**Potential for LSE**
		• Coastal Lagoons; and • Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*);	• Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation; and • Accidental pollution	• Accidental pollution; • Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors; • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology; • Colonisation of foundations and scour protection may affect benthic ecology and biodiversity; and • Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations; • Temporary increases in suspended sediment concentrations and deposition from removal of structure; and • Removal of foundation leading to loss of species/habitats colonising the structure.	A	No potential for LSE
	Annex II Species for primary selection (Marine Mammals)	• Harbour seal (*Phoca vitulina*)	• Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals;	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may result in an increase in disturbance	• Accidental pollution; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals;	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
			• Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals; • Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals; and • Accidental pollution.	to, or collision with marine mammals.	• Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals; and • Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.		
Breydon Water SPA	Offshore and Intertidal Ornithology	• A037 *Cygnus columbianus bewickii;* • A151 *Philomachus pugnax;* • A140 *Pluvialis apricaria;* • A132 *Recurvirostra avosetta*; • A193 *Sterna hirundo;* • A142 *Vanellus vanellus*; and • Waterfowl assemblage.	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
Flamborough & Filey Coast SPA	Offshore and Intertidal Ornithology	• A200 *Alca torda;* • A016 *Morus bassanus;* • A188 *Rissa tridactyla;* • A199 *Uria aalge*; and • Seabird assemblage.	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation,	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
				reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.			
Gibraltar Point SPA	Offshore and Intertidal Ornithology	• A144 *Calidris alba;* • A157 *Limosa lapponica;* • A141 *Pluvialis squatarola*; and • A195 *Sterna albifrons.*	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
Greater Wash SPA	Offshore and Intertidal Ornithology	• A001 *Gavia stellata;* • A177 *Larus minutus;* • A065 *Melanitta nigra;* • A195 *Sterna albifrons;* • A193 *Sterna hirundo;* and • A191 *Sterna sandvicensis.*	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Humber Estuary SPA	Offshore and Intertidal Ornithology	• A052 *Anas crecca;* • A050 *Anas penelope*; • A053 *Anas platyrhynchos;* • A169 *Arenaria interpres;* • A059 *Aythya ferina;* • A062 *Aythya marila;* • A021 *Botaurus stellaris;* • A675 *Branta bernicla bernicla;* • A067 *Bucephala clangula*; • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus;* • A137 *Charadrius hiaticula*; • A137 *Charadrius hiaticula;* • A081 *Circus aeruginosus*; • A082 *Circus cyaneus*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A616 *Limosa limosa islandica*; • A160 *Numenius arquata*; • A158 *Numenius phaeopus*; • A151 *Philomachus pugnax*; • A140 *Pluvialis apricaria*; • A141 *Pluvialis squatarola*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A048 *Tadorna tadorna*; • A164 *Tringa nebularia*; • A162 *Tringa totanus*; • A142 *Vanellus vanellus*; and • Waterfowl assemblage	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
North Norfolk Coast SPA	Offshore and Intertidal Ornithology	• A050 *Anas penelope*; • A040 *Anser brachyrhynchus*; • A021 *Botaurus stellaris*; • A675 *Branta bernicla bernicla*; • A143 *Calidris canutus*; • A081 *Circus aeruginosus*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; and • A191 *Sterna sandvicensis*.	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
				displacement from important foraging and habitat areas of birds.			
Outer Thames Estuary SPA	Offshore and Intertidal Ornithology	• A001 *Gavia stellata*; • A195 *Sterna albifrons*; and • A193 *Sterna hirundo*.	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
Teesmouth and Cleaveland Coast SPA	Offshore and Intertidal Ornithology	• A143 *Calidriscanutus*; • A151 *Philomachus pugnax*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; • A191 *Sterna sandvicensis*; • A162 *Tringa totanus*; and • Waterbird assemblage	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates; • The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
The Wash SPA	Offshore and Intertidal Ornithology	• A054 *Anas acuta*; • A050 *Anas penelope*; • A051 *Anas strepera*; • A040 *Anser brachyrhynchus*; • A169 *Arenaria interpres*; • A675 *Branta bernicla bernicla*;	• The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important	• Accidental pollution: • The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates;	• Accidental pollution; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant Effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		• A067 *Bucephala clangula*; • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A037 *Cygnus columbianus bewickii*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A616 *Limosa limosa islandica*; • A065 *Melanitta nigra*; • A160 *Numenius arquata*; • A141 *Pluvialis squatarola*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; • A048 *Tadorna tadorna*; • A162 *Tringa totanus*; and • Waterfowl assemblage	foraging and habitat areas of birds; and • Accidental pollution.	• The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration; • The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality; and • The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	foraging and habitat areas of birds.		

3.2 Assessment of Adverse Effect Alone – Information to Inform Appropriate Assessment (New Offshore Artificial Nesting Structure)

3.2.1.1 Where potential for LSE on a European site(s) has been identified, there is a requirement to consider whether that potential effect(s) will adversely affect the integrity of the site in view of its conservation objectives (Figure 20). The potential for LSE for the new offshore artificial nesting structure Compensation Measure is presented in Table 6. Potential for LSE applies where a feature is known to be sensitive to the effect and a potential pathway cannot be discounted.

3.2.1.2 The approach taken to HRA for the Compensation Measures is summarised in Figure 21. Where the screening conclusion is that there is a potential LSE, the primary measure applied to avoid an AEoI is mitigation. For Hornsea Four, these measures are identified in the Volume A4, Annex 5.2: Commitments Register, with the commitments relevant to offshore compensation measures provided in Table 7 for ease of reference. It should be noted, however, that ultimately, the Compensation Measures will not be consented through the Hornsea Four DCO application process and will be subject to (where necessary) standalone EIA and HRA processes as part of their own consenting process (for example a Marine Licence application and/or Planning Application). As part of that consenting process, further assessment work will be undertaken, based on refined design and methodology details.

3.2.1.3 The information to inform the AA for the new offshore artificial nesting structure Compensation Measure is presented in Table 8; the table details all designated sites, features and effects for which a potential for LSE has been identified, proposes appropriate Commitments (mitigation) that could be applied to avoid or reduce the impacts, and provides conclusions on whether there is potential for AEoI after the application of these Commitments for the project alone. Consideration to AEoI in-combination is made in Section 9.

Table 7: Commitment tables relating to offshore compensation measures.

Commitment Reference	Commitment Details
CoC-OFF-1	Avoidance of NERC habitats of principal importance (where possible) through DDV before JUV dropping legs.
CoC-OFF-2	A Marine Written Scheme of Archaeological Investigation (WSI) will be developed. The Marine WSI will include the requirement for Archaeological Exclusion Zones (AEZs) to be established to protect any known / identified / unexpected marine archaeological receptors and the implementation of a Protocol for Archaeological Discoveries (PAD) in accordance with 'Protocol for Archaeological Discoveries: Offshore Renewables Projects' (The Crown Estate, 2014).
CoC-OFF-3	Advance warning and accurate location details of construction, maintenance and decommissioning operations, associated Safety Zones and advisory passing distances will be given via Notices to Mariners and Kingfisher Bulletins.
CoC-OFF-4	A Vessel Management Plan (VMP) will be developed pre-construction which will determine vessel routing to and from construction areas and ports to minimise, as far as reasonably practicable, encounters with marine mammals and ornithological receptors.
CoC-OFF-5	The Defence Infrastructure Organisation and the Civil Aviation Authority (CAA) will be informed of the locations, heights and lighting status of structures, including estimated and actual dates of construction and the maximum height of any construction equipment to be used, prior to the start of construction, to allow inclusion on Aviation Charts.

Commitment Reference	Commitment Details
CoC-OFF-6	Aids to navigation (marking and lighting) will be deployed in accordance with the latest relevant available standard industry guidance and as advised by Trinity House, MCA and Civil Aviation Authority (CAA) and MoD as appropriate.
CoC-OFF-7	A Project Environmental Management and Monitoring Plan (PEMMP) will be developed.
CoC-OFF-8	Fish Habitat Enhancement site selection limited to areas of degraded/former seagrass and/or locations within an Annex I feature and/or citation that includes seagrass as its ecological characteristics.
CoC-OFF-9	Presence of habitats of principal importance (Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act) will be identified through a review of the latest available benthic datasets and pre-construction surveys. Foundations will be micro-sited around habitats of principal importance wherever reasonably practicable (subject to agreement with the MMO) to an extent not resulting in a hazard for marine traffic and Search & Rescue capability.
CoC-OFF-10	A piling Marine Mammal Mitigation Protocol (MMMP) will be developed in accordance with the Outline MMMP and will be implemented during construction. The piling MMMP will include measures to ensure the risk of instantaneous permanent threshold shift (PTS) to marine mammals is negligible and will be in line with the latest relevant available guidance. The piling MMMP will include details of soft starts to be used during piling operations with lower hammer energies used at the beginning of the piling sequence before increasing energies to the higher levels.
CoC-OFF-11	Ongoing liaison with fishing fleets will be maintained during construction, maintenance and decommissioning operations via an appointed Fisheries Liaison Officer and Fishing Industry Representative.
CoC-OFF-12	The United Kingdom Hydrographic Office will be notified of both the commencement (within two weeks), progress and completion of offshore construction works (within two weeks) to allow marking of all installed infrastructure on nautical charts.
CoC-OFF-13	Compensation Measures will not be co-located in immediate proximity (within an ~~approraite~~appropriate buffer) to oil and gas or carbon capture and storage infrastructure, aggregate dredging or disposal sites, or cables and pipelines.
CoC-OFF-14	Offshore geotechnical and geophysical surveys (including a UXO survey) will be undertaken prior to construction, including a staged geoarchaeological assessment and will be subject to a full ~~arhcaeological~~archaeological review in consultation with Historic England.

Table 8: Assessment of AEoI Alone for New Offshore Artificial Nesting Structure.

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
A1: Southern North Sea	Breydon Water Ramsar	• Criterion 5: Internationally important waterfowl assemblage (greater than 20,000 birds); and • Criterion 6: Over winter the site regularly supports internationally important numbers of: Bewick's Swan (*Cygnus columbianus* bewickii) and Lapwing (*Vanellus vanellus*	✓	✗	✗	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Gibraltar Point Ramsar	• Criterion 1: The dune and saltmarsh habitats present on the site are representative of all the stages of colonisation and stabilisation. There is a fine example of freshwater marsh containing sedges *Carex spp.*, rushes *Juncus spp.*, and ferns, including adder's-tongue fern *Ophioglossum vulgatum*. Also most northerly example of nationally rare saltmarsh/dune communities containing sea heath *Frankenia laevis*, rock sea lavender *Limonium binervosum* and shrubby seablite *Suaeda vera.* • Ramsar Criterion2: Supports an assemblage of wetland invertebrate species of which eight species are listed as rare in the British Red Data Book and a further four species listed as vulnerable.	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundations leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 53072 waterfowl (5 year peak mean 1998/99-2002/2003). • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Grey plover , *Pluvialis squatarola*; Sanderling , *Calidris alba*; Bar-tailed godwit, and *Limosa lapponica lapponica*. Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Red knot , *Calidris canutus islandica*.	✓	✗	✗	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Humber Estuary Ramsar	• Ramsar Criterion 1: The site is a representative example of a near-natural estuary with the several named component habitats including: dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes , and coastal brackish/saline lagoons.	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundation leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Citerion 8: Estuary acts as an important migration route for both river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*) between coastal waters and their spawning areas	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Underwater noise as a result of foundation installation (i.e. piling) and Unexploded Ordnance clearance resulting in potential effects on fish and shellfish receptors.	CoC-OFF-10	As a result of the implementation of CoC-OFF-10 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for LSE.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on fish and shellfish ecology.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect fish and shellfish ecology.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on fish and shellfish ecology.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✖	✖	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on fish and shellfish ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Effects on fish and shellfish receptors due to removal of structure leading to loss of hard substrates and structural complexity.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Citerion 3: The site supports a breeding colony of grey seals (*Halichoerus grypus*) at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast;	✓	✖	✖	Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✖	✖	Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals.	N/A	Due to the impact being highly limited in extent and duration, **no potential for AEoI is anticipated.**
			✓	✖	✖	Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals.	CoC-OFF-10	As a result of the implementation of CoC-OFF-10 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area, there is **no potential for AEoI.**
			✖	✖	✓	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
								managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Citerion 5: Assemblages of international importance: 153,934 waterfowl, non-breeding season (5 year peak mean from 1996/97 to 2000/01); • Citerion 6: Common shelduck (*Tadorna tadorna),* Eurasian golden plover (*Pluvialis apricaria*), Red knot (*Calidris canutus*), islandica subspecies, Dunlin (*Calidris alpina*), Black-tailed godwit (*Limosa* limosa*),* Bar-tailed godwit (*Limosa lapponica*) and Common redshank (*Tringa totanus*)	✓	✘	✘	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✘	✓	✘	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✘	✓	✘	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✘	✓	✘	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✘	✓	✘	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✘	✘	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	North Norfolk Coast Ramsar	• Ramsar criterion 1: The site is one of the largest expanses of undeveloped coastal habitat of its type in Europe. It is a particularly good example of a marshland coast with intertidal sand and mud, saltmarshes, shingle banks and sand dunes. There are a series of brackish-water lagoons and extensive areas of freshwater grazing marsh and reed beds.	✓	✘	✘	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✘	✘	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **n no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✘	✓	✘	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✘	✓	✘	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✘	✓	✘	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✘	✓	✘	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✘	✘	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundations leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 98462 waterfowl (5 year peak mean 1998/99-2002/2003) • Ramsar criterion 6 species/ populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species regularly supported during the breeding season: Sandwich tern , *Sterna sandvicensis sandvicensis*; Common tern , *Sterna hirundo hirundo*; and Little tern , *Sterna albifrons albifrons*. Species with peak counts in spring/autumn: Red knot , *Calidris canutus islandica*. Species with peak counts in winter: Pink-footed goose , *Anser brachyrhynchus*; Dark-bellied brent goose, *Branta bernicla bernicla*; Eurasian wigeon , *Anas penelope*; and Northern pintail , *Anas acuta*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Ringed plover , *Charadrius hiaticula*; Sanderling , *Calidris alba*; and Bar-tailed godwit , *Limosa lapponica lapponica*.	✓	✗	✗	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Teesmouth and Cleaveland Coast Ramsar	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 9528 waterfowl (5 year peak mean 1998/99-2002/2003). • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank , *Tringa totanus totanus*.	✓	✗	✗	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		Species with peak counts in winter: Red knot , *Calidris canutus islandica*.	✖	✓	✖	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✖	✖	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	The Wash Ramsar	• Ramsar criterion 1: The Wash is a large shallow bay comprising very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels. It is the largest estuarine system in Britain. • Ramsar criterion 3: Qualifies because of the inter-relationship between its various components including saltmarshes, intertidal sand and mud flats and the estuarine waters. The saltmarshes and the plankton in the estuarine water provide a primary source of organic material which, together with other organic matter, forms the basis for the high productivity of the estuary.	✓	✖	✖	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✖	✖	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✖	✓	✖	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✖	✓	✖	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✖	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Removal of foundation leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 292,541 waterfowl (5 year peak mean 1998/99-2002/2003). • Ramsar criterion 6: Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank , *Tringa totanus totanus*; Eurasian curlew , *Numenius arquata arquata*,; Eurasian oystercatcher , *Haematopus ostralegus ostralegus*; Grey plover , Pluvialis squatarola; Red knot , *Calidris canutus islandica*; and Sanderling , *Calidris alba*. Species with peak counts in winter: Black-headed gull , *Larus ridibundus*; Common eider , *Somateria ollissima mollissima*; Bar-tailed godwit , *Limosa lapponica lapponica*; Common shelduck , *Tadorna tadorna*; Dark-bellied brent goose, *Branta bernicla bernicla*; Dunlin , *Calidris alpina alpina*; and Pink-footed goose , *Anser brachyrhynchus*. Species/ populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Black-tailed godwit, *Limosa limosa islandica*; and Ringed plover , *Charadrius hiaticula*. Species with peak counts in winter: European golden plover , *Pluvialis apricaria altifrons*; and Northern lapwing , *Vanellus vanellus*.	✓	✘	✘	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✘	✓	✘	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✘	✓	✘	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✘	✓	✘	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✘	✓	✘	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✘	✘	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Dogger Bank SAC	• Sandbanks which are slightly covered by sea water all the time	✓	✘	✘	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✘	✓	✘	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✘	✓	✘	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✘	✘	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Dogger Bank SAC	• Reefs; and • Submerged or partially submerged sea caves	✓	✘	✘	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Flamborough Head SAC	• Reefs; and • Submerged or partially submerged sea caves	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundation leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
A1: Southern North Sea	Haisborough, Hammond and Winterton SAC	Sandbanks which are slightly covered by sea water all the time, and Reefs.	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundation leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Humber Estuary SAC	• Estuaries, Mudflats and sandflats not covered by seawater at low tide; • Sandbanks which are slightly covered by sea water all the time; • Salicornia and other annuals colonizing mud and sand; and • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*);	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundations leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Sea lamprey, *Petromyzon marinus*, and • River lamprey, *Lampetra fluviatilis*,	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Underwater noise as a result of foundation installation (i.e. piling) and Unexploded Ordnance clearance resulting in potential effects on fish and shellfish receptors.	CoC-OFF-10	As a result of the implementation of CoC-OFF-10 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on fish and shellfish ecology.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect fish and shellfish ecology.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on fish and shellfish ecology.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove the structure, and associated jack-up operations.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of the structure resulting in potential effects on fish and shellfish ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
								managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Effects on fish and shellfish receptors due to removal of the structure leading to loss of hard substrates and structural complexity.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		Grey seal, *Halichoerus grypus*	✓	✖	✖	Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✖	✖	Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✖	✖	Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals.	CoC-OFF-10	As a result of the implementation of CoC-OFF-10 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area, there is **no potential for AEoI.**
			✖	✖	✓	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea		Sandbanks which are slightly covered by sea water all the time, and reefs	✓	✖	✖	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
	Inner Dowsing, Race Bank and North Ridge SAC		✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundations leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Klaverbank SAC	Reefs	✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		• Grey seal, *Halichoerus grypus,* • Harbour seal, *Phoca vitulina*; and • Harbour porpoise, *Phocoena phocoena*	✓	✗	✗	Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✗	✗	Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals.	CoC-OFF-10	As a result of the implementation of CoC-OFF-10 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area, there is **no potential for AEoI.**
			✗	✗	✓	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	North Norfolk Coast	• Coastal Lagoons (*Priority feature) • Perennial vegetation of stony banks, and • Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✖	✖	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Removal of foundations leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	North Norfolk Sandbanks and Saturn Reef SAC	• Sandbanks which are slightly covered by sea water all the time; and • Reefs	✓	✖	✖	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✖	✖	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✖	✓	✖	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✖	✓	✖	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✖	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✖	✖	✓	Removal of foundations leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
								the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Southern North Sea SAC	Harbour porpoise (*Phocoena phocoena*)	✓	✗	✗	Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✗	✗	Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals.	CoC-OFF-10	As a result of the implementation of CoC-OFF-10 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area, there is **no potential for AEoI.**
			✗	✗	✓	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	The Wash and North Norfolk Coast SAC	• Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; • Large shallow inlets and bays; • Reefs; • Salicornia and other annuals colonizing mud and sand; and • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*).	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels and seabed preparation.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to seabed preparation and drilling for foundation installation.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Long term loss of seabed habitat through presence of foundations and scour protection, resulting in potential effects on benthic receptors.	CoC-OFF-9	As a result of the implementation of CoC-OFF-9, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✓	✗	Colonisation of foundations and scour protection may affect benthic ecology and biodiversity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased risk of introduction or spread of invasive and non-native species due to presence of subsea infrastructure, scour protection and vessel movements (e.g. ballast water).	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundations leading to loss of species/habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		Harbour porpoise (*Phocoena phocoena*)	✓	✗	✗	Increased vessel traffic during construction may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✗	✗	Increased suspended sediments arising from construction activities, such as seabed clearance or drilling, may reduce water clarity and impair the foraging ability of marine mammals.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Underwater noise from foundation piling and Unexploded Ordnance clearance has the potential to cause injury or disturbance to marine mammals.	CoC-OFF-10	As a result of the implementation of CoC-OFF-10 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area, there is **no potential for AEoI.**
			✗	✗	✓	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✖	✖	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Breydon Water SPA	• A037 *Cygnus columbianus bewickii;* • A151 *Philomachus pugnax;* • A140 *Pluvialis apricaria;* • A132 *Recurvirostra avosetta;* • A193 *Sterna hirundo;* • A142 *Vanellus vanellus;* and • Waterfowl assemblage.	✓	✖	✖	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✖	✖	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Flamborough & Filey Coast SPA	• A200 *Alca torda;* • A016 *Morus bassanus;* • A188 *Rissa tridactyla;* • A199 *Uria aalge;* and • Seabird assemblage.	✓	✖	✖	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✖	✖	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Gibraltar Point SPA	• A144 *Calidris alba*; • A157 *Limosa lapponica*; • A141 *Pluvialis squatarola*; and • A195 *Sterna albifrons*	✓	✖	✖	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI**
			✖	✓	✖	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✖	✖	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Greater Wash SPA	• A001 *Gavia stellata*; • A177 *Larus minutus*; • A065 *Melanitta nigra*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; and • A191 *Sterna sandvicensis*.	✓	✖	✖	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Humber Estuary SPA	• A052 *Anas crecca*; • A050 *Anas penelope*; • A053 *Anas platyrhynchos*; • A169 *Arenaria interpres*; • A059 *Aythya ferina*; • A062 *Aythya marila*; • A021 *Botaurus stellaris*; • A675 *Branta bernicla bernicla*; • A067 *Bucephala clangula*; • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A137 *Charadrius hiaticula*; • A081 *Circus aeruginosus*; • A082 *Circus cyaneus*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A616 *Limosa limosa islandica*; • A160 *Numenius arquata*; • A158 *Numenius phaeopus*; • A151 *Philomachus pugnax*; • A140 *Pluvialis apricaria*; • A141 *Pluvialis squatarola*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A048 *Tadorna tadorna*; • A164 *Tringa nebularia*; • A162 *Tringa totanus*; • A142 *Vanellus vanellus*; and • Waterfowl assemblage	✓	✗	✗	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

A1: Southern North Sea	North Norfolk Coast SPA	• A050 *Anas penelope*;
		• A040 *Anser brachyrhynchus*;
		• A021 *Botaurus stellaris*;
		• A675 *Branta bernicla bernicla*;
		• A143 *Calidris canutus*;
		• A081 *Circus aeruginosus*;
		• A132 *Recurvirostra avosetta*;
		• A195 *Sterna albifrons*;
		  • A193 *Sterna hirundo*; and
		  • A191 *Sterna sandvicensis*.
			✓	✗	✗	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**

			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✖	✓	✖	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✖	✖	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Outer Thames Estuary SPA	• A001 *Gavia stellata*; • A195 *Sterna albifrons*; and • A193 *Sterna hirundo*.	✓	✖	✖	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✖	✖	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Teesmouth and Cleaveland Coast SPA	• A143 *Calidriscanutus*; • A151 *Philomachus pugnax*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; • A191 *Sterna sandvicensis*; • A162 *Tringa totanus*; and • Waterbird assemblage	✓	✖	✖	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✖	✓	✖	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✓	✗	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	The Wash SPA	• A054 *Anas acuta*; • A050 *Anas penelope*; • A051 *Anas strepera*; • A040 *Anser brachyrhynchus*; • A169 *Arenaria interpres*; • A675 *Branta bernicla bernicla*; • A067 *Bucephala clangula*; • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A037 *Cygnus columbianus bewickii*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A616 *Limosa limosa islandica*; • A065 *Melanitta nigra*; • A160 *Numenius arquata*; • A141 *Pluvialis squatarola*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; • A048 *Tadorna tadorna*; • A162 *Tringa totanus*; and Waterfowl assemblage	✓	✗	✗	The impact of construction activities such as increased vessel activity and underwater noise may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of physical displacement from an area around the structure may result in effective habitat loss and reduction in survival or fitness rates.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of barrier effects caused by the physical presence of the structure may prevent clear transit of birds between foraging and breeding sites, or on migration.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of attraction to a lit structure by migrating birds in particular may cause disorientation, reduction in fitness and possible mortality.	N/A	Due to the impact being highly limited in extent, there is **no potential for AEoI.**
			✗	✓	✗	The impact of maintenance activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	Due to the impact being highly limited in extent and duration, combined with the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

4 Habitats Regulations Assessment – Repurposed Offshore Artificial Nesting Structure

4.1 Assessment of the Potential for LSE - Repurposed Offshore Artificial Nesting Structure

4.1.1.1 Screening for potential LSE considers the effects that may result during installation/ construction, implementation/ operation/ maintenance and decommissioning of the repurposed offshore artificial nesting structure Compensation Measure, as defined in **Section 2.3.2,** in relation to the designated sites identified in **Section 2.3.3**. This section combines that information to determine the potential LSE for the project alone. Key to the potential for LSE are the clear presence or absence of a pathway, linking the effect to a designated site or feature, together with known sensitivity of the feature to the effect. The conclusions on the potential for LSE are presented in **Table 9**, on a site-by-site basis.

4.1.1.2 The assessment of potential LSE is made based on three clear parameters, as defined in **Table 5**. The presence or absence of a pathway is based on the scope and nature of the proposed Compensation Measure activities together with the location of the designated feature, with the sensitivity of the feature(s) drawing on the relevant information available for the designated sites (provided in **Appendix B**).

Table 9: Screening based on potential LSE from Repurposed Offshore Artificial Nesting Structure in the southern North Sea AoS (A1).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Breydon Water Ramsar	Offshore and intertidal ornithology receptors	• Criterion 5: Internationally important waterfowl assemblage (greater than 20,000 birds); and • Criterion 6: Over winter the site regularly supports internationally important numbers of: Bewick's Swan (*Cygnus columbianus bewickii*) and Lapwing (*Vanellus vanellus*)	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
Gibraltar Point Ramsar	Designated benthic habitats	• Criterion 1: The dune and saltmarsh habitats present on the site are representative of all the stages of colonisation and stabilisation. There is a fine example of freshwater marsh containing sedges *Carex* spp., rushes Juncus spp., and ferns, including adder's-tongue fern *Ophioglossum vulgatum*. Also most northerly example of nationally rare saltmarsh/dune communities containing sea heath *Frankenia laevis*, rock sea lavender *Limonium binervosum* and shrubby seablite *Suaeda vera*.	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	C	**Potential for LSE**
		• Ramsar Criterion2: Supports an assemblage of wetland invertebrate species of which eight species are listed as rare in the British Red Data Book and a further four species listed as vulnerable.	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	A	No potential for LSE
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international	• The impact of construction activities such as increased vessel	• The impact of pollution including accidental spills and contaminant	• The impact of pollution including accidental spills and contaminant	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		importance: Species with peak counts in winter: 53072 waterfowl (5 year peak mean 1998/99-2002/2003). • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Grey plover , *Pluvialis squatarola*; Sanderling , *Calidris alba*; Bar-tailed godwit, and *Limosa lapponica lapponica*. Species with peak counts in winter:Dark-bellied brent goose, *Branta bernicla bernicla*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Red knot , *Calidris canutus islandica*.	activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	releases which may affect species' survival rates or foraging activity.	releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.		
Humber Estuary Ramsar	Designated benthic habitats	• Ramsar Criterion 1: The site is a representative example of a near-natural estuary with the several named component habitats including: dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes , and coastal brackish/saline lagoons.	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	C	**Potential for LSE**
	Migratory fish species	• Citerion 8: Estuary acts as an important migration route for both river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*) between coastal	• Temporary habitat loss/disturbance and direct damage by jack-up vessels; and • Accidental pollution	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on fish and shellfish ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations resulting in potential effects on fish and shellfish ecology;	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		waters and their spawning areas			• Temporary increases in SSCs and deposition from removal of structure resulting in potential effects on fish and shellfish ecology; • Effects on fish and shellfish receptors due to removal of structure leading to loss of hard substrates and structural complexity; and • Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors		
	Marine mammals	• Citerion 3: The site supports a breeding colony of grey seals (*Halichoerus grypus*) at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast;	• Increased vessel traffic during repurposing may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	• Accidental pollution; • Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals; and • Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	C	**Potential for LSE**
	Offshore and Intertidal ornithology receptors	• Citerion 5: Assemblages of international importance: 153,934 waterfowl, non-breeding season (5 year peak mean from 1996/97 to 2000/01); • Citerion 6: Common shelduck (Tadorna tadorna), Eurasian golden plover (*Pluvialis* apricaria), Red knot (*Calidris canutus*), islandica subspecies, Dunlin (*Calidris alpina*), Black-tailed godwit (*Limosa limosa*), Bar-tailed godwit (*Limosa lapponica*) and Common redshank (*Tringa totanus*)	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
North Norfolk Coast Ramsar	Designated benthic habitats	• Ramsar criterion 1: The site is one of the largest expanses of undeveloped coastal habitat of its type in Europe.	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		It is a particularly good example of a marshland coast with intertidal sand and mud, saltmarshes, shingle banks and sand dunes. There are a series of brackish-water lagoons and extensive areas of freshwater grazing marsh and reed beds.			resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.		
		• Ramsar criterion 2: Supports at least three British Red Data Book and nine nationally scarce vascular plants, one British Red Data Book lichen and 38 British Red Data Book invertebrates.	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	A	No potential for LSE
	Offshore and Intertidal ornithology receptors	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 98462 waterfowl (5 year peak mean 1998/99-2002/2003) • Ramsar criterion 6 species/ populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species regularly supported during the breeding season: Sandwich tern, *Sterna sandvicensis sandvicensis*; Common tern , *Sterna hirundo hirundo*; and Little tern , *Sterna albifrons albifrons*. Species with peak counts in spring/autumn: Red knot, *Calidris canutus islandica*. Species with peak counts in winter: Pink-footed goose, *Anser brachyrhynchus*; Dark-bellied	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		brent goose, *Branta bernicla bernicla*; Eurasian wigeon , *Anas penelope*; and Northern pintail , *Anas acuta*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Ringed plover, *Charadrius hiaticula*; Sanderling , *Calidris alba*; and Bar-tailed godwit , *Limosa lapponica lapponica*.					
Teesmouth and Cleaveland Coast Ramsar	Offshore and intertidal ornithology receptors	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 9528 waterfowl (5 year peak mean 1998/99-2002/2003). • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank, *Tringa totanus totanus*. Species with peak counts in winter: Red knot , *Calidris canutus islandica*.	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
The Wash Ramsar	Designated benthic habitats	• Ramsar criterion 1: The Wash is a large shallow bay comprising very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels. It is the largest estuarine system in Britain. • Ramsar criterion 3: Qualifies because of the inter-relationship between its various components including saltmarshes, intertidal sand and mud flats and the estuarine waters.	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		The saltmarshes and the plankton in the estuarine water provide a primary source of organic material which, together with other organic matter, forms the basis for the high productivity of the estuary.					
	Offshore and intertidal ornithology receptors	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 292,541 waterfowl (5 year peak mean 1998/99-2002/2003). • Ramsar criterion 6: Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank , *Tringa totanus totanus*; Eurasian curlew , *Numenius arquata arquata*, Eurasian oystercatcher , *Haematopus ostralegus ostralegus*; Grey plover , *Pluvialis squatarola*; Red knot , *Calidris canutus islandica*; and Sanderling , Calidris alba. Species with peak counts in winter: Black-headed gull, *Larus ridibundus*; Common eider , *Somateria ollissima mollissima*; Bar-tailed godwit , *Limosa lapponica lapponica*; Common shelduck , *Tadorna tadorna*; Dark-bellied brent goose, *Branta bernicla bernicla*; Dunlin , *Calidris alpina alpina*; and Pink-footed goose , *Anser brachyrhynchus*. Species/ populations identified subsequent to designation	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Black-tailed godwit, *Limosa limosa islandica*; and Ringed plover , *Charadrius hiaticula*. Species with peak counts in winter: European golden plover, *Pluvialis apricaria altifrons*; and Northern lapwing, *Vanellus vanellus*.					
Beast Cliff – Whitby (Robin Hood's Bay) SAC	Annex I Habitats (Designated Benthic Habitats)	Vegetated sea cliffs of the Atlantic and Baltic Coasts	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	A	No potential for LSE
Dogger Bank SAC	Annex I Habitats (Designated benthic habitats)	Sandbanks which are slightly covered by sea water all the time	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; and • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology	C	**Potential for LSE**
			• N/A	• N/A	• Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	A	No potential for LSE

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Doggersbank SAC	Annex I Habitats (Designated benthic habitats)	• Reefs; and • Submerged or partially submerged sea caves	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; and • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology	C	**Potential for LSE**
			• N/A	• N/A	• Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	A	No potential for LSE
Flamborough Head SAC	Annex I habitats (designated benthic habitats)	• Reefs; and • Submerged or partially submerged sea caves.	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	C	**Potential for LSE**
		Vegetated sea cliffs of the Atlantic and Baltic Coasts	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	A	No potential for LSE
Hainsborough, Hammond and Winterton SAC	Annex I habitats (designated benthic habitats)	• Sandbanks which are slightly covered by sea water all the time, and • Reefs.	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
					resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.		
Humber Estuary SAC	Annex I habitats (designated benthic habitats) as primary features and as qualifying features	• Estuaries, Mudflats and sandflats not covered by seawater at low tide; • Sandbanks which are slightly covered by sea water all the time; • Salicornia and other annuals colonizing mud and sand; and • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*).	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	C	**Potential for LSE**
		• Coastal lagoons (*Priority feature); • Embryonic shifting dunes; • "Shifting dunes along the shoreline with *Ammophila arenaria* (""white dunes"")"; • "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" *Priority feature); and • Dunes with *Hippopha rhamnoides*	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	A	No potential for LSE
	Annex II species as a qualifying feature (migratory fish species)	• Sea lamprey, *Petromyzon marinus*; and • River lamprey, *Lampetra fluviatilis*	• Temporary habitat loss/disturbance and direct damage by jack-up vessels; and • Accidental pollution	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on fish and shellfish ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure, and associated jack-up operations resulting in potential effects on fish and shellfish ecology; • Temporary increases in SSCs and deposition from removal of structure resulting in potential effects on fish and shellfish ecology;	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
					• Effects on fish and shellfish receptors due to removal of structure leading to loss of hard substrates and structural complexity; and • Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors on fish and shellfish receptors.		
	Annex II species as a qualifying feature (marine mammals)	Grey seal, *Halichoerus grypus*	• Increased vessel traffic during repurposing may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	• Accidental pollution; • Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals; and • Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	C	**Potential for LSE**
Inner Dowsing, Race Bank and North Ridge SAC	Annex I habitats (designated benthic habitats)	• Sandbanks which are slightly covered by sea water all the time, and • Reefs	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	C	**Potential for LSE**
Klaverbank SAC	Annex I habitats (designated benthic habitats) Annex II species for primary selection (Marine mammals)	Reefs	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; and • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology	C	**Potential for LSE**
			• N/A	• N/A	• Temporary loss of habitat due to operations to remove structure and associated jack-up operations	A	No potential for LSE

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
					resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.		
		• Grey seal, *Halichoerus grypus*, • Harbour seal, *Phoca vitulina*; and • Harbour porpoise, *Phocoena phocoena*	• Increased vessel traffic during repurposing may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	• Accidental pollution; • Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals; and • Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	C	**Potential for LSE**
North Norfolk Coast SAC	Annex I habitats (designated benthic habitats)	• Coastal lagoons (*Priority feature); • Perennial vegetation of stony banks, • Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*), • Embryonic shifting dunes, • "Shifting dunes along the shoreline with *Ammophila arenaria* (""white dunes"")", • "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" (*Priority feature) and • Humid dune slacks.	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; and • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	A	No potential for LSE
North Norfolk Sandbanks and Saturn Reef SAC	Annex I habitats (designated benthic habitats)	• Sandbanks which are slightly covered by sea water all the time; and • Reefs	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
					• Removal of foundation leading to loss of species/ habitats colonising the structure.		
Southern North Sea SAC	Annex II species for primary selection (Marine mammals)	Harbour porpoise (*Phocoena phocoena*)	• Increased vessel traffic during repurposing may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	• Accidental pollution; • Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals; and • Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	C	**Potential for LSE**
The Wash and North Norfolk Coast SAC	Annex I habitats (designated benthic habitats)	• Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; • Large shallow inlets and bays; • Reefs; • Salicornia and other annuals colonizing mud and sand; • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*);	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	C	**Potential for LSE**
		• Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*); and • Coastal Lagoons	• Accidental pollution; and • Temporary habitat loss/disturbance and direct damage by jack-up vessels	• Accidental pollution; and • Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	• Accidental pollution; • Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology; • Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology; and • Removal of foundation leading to loss of species/ habitats colonising the structure.	A	No potential for LSE
	Annex II Species for primary selection (Marine Mammals)	• Harbour seal (*Phoca vitulina*)	• Increased vessel traffic during repurposing may result in an increase in disturbance to or	• Accidental pollution; and • Increased vessel traffic during operation and maintenance may	• Accidental pollution; • Increased vessel traffic during decommissioning activities may	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
			collision risk with marine mammals; and • Accidental pollution	result in an increase in disturbance to, or collision with marine mammals.	result in an increase in disturbance to, or collision risk with marine mammals; • Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals; and • Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.		
Breydon Water SPA	Offshore and Intertidal Ornithology	• A037 *Cygnus columbianus bewickii*; • A151 *Philomachus pugnax*; • A140 *Pluvialis apricaria*; • A132 *Recurvirostra avosetta*; • A193 *Sterna hirundo*; • A142 *Vanellus vanellus*; and • Waterfowl assemblage.	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
Flamborough & Filey Coast SPA	Offshore and Intertidal Ornithology	• A200 *Alca torda*; • A016 *Morus bassanus*; • A188 *Rissa tridactyla*; • A199 *Uria aalge*; and • Seabird assemblage.	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
Gibraltar Point SPA	Offshore and Intertidal Ornithology	• A144 *Calidris alba*; • A157 *Limosa lapponica*; • A141 *Pluvialis squatarola*; and • A195 *Sterna albifrons*.	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
Greater Wash SPA	Offshore and Intertidal Ornithology	• A001 *Gavia stellata*; • A177 *Larus minutus*; • A065 *Melanitta nigra*; • A195 *Sterna albifrons*;	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species'	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		• A193 *Sterna hirundo*; and • A191 *Sterna sandvicensis*.	important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.		survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.		
Humber Estuary SPA	Offshore and Intertidal Ornithology	• A052 *Anas crecca*; • A050 *Anas penelope*; • A053 *Anas platyrhynchos*; • A169 *Arenaria interpres*; • A059 *Aythya ferina*; • A062 *Aythya marila*; • A021 *Botaurus stellaris*; • A675 *Branta bernicla bernicla*; • A067 *Bucephala clangula*; • A144 *Calidris alba;* • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A137 *Charadrius hiaticula*; • A137 *Charadrius hiaticula*; • A081 *Circus aeruginosus*; • A082 *Circus cyaneus*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A616 *Limosa limosa islandica*; • A160 *Numenius arquata*; • A158 *Numenius phaeopus*; • A151 *Philomachus pugnax*; • A140 *Pluvialis apricaria*; • A141 *Pluvialis squatarola*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A048 *Tadorna tadorna*; • A164 *Tringa nebularia*; • A162 *Tringa totanus*; • A142 *Vanellus vanellus*; and • Waterfowl assemblage	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
North Norfolk Coast SPA	Offshore and Intertidal Ornithology	• "A050 *Anas penelope*; • A040 *Anser brachyrhynchus*; • A021 *Botaurus stellaris*; • A675 *Branta bernicla bernicla*; • A143 *Calidris canutus*; • A081 *Circus aeruginosus*;	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		• A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; and • A191 *Sterna sandvicensis*.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.		underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.		
Outer Thames Estuary SPA	Offshore and Intertidal Ornithology	• A001 *Gavia stellata*; • A195 *Sterna albifrons*; and • A193 *Sterna hirundo*.	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
Teesmouth and Cleveland Coast SPA	Offshore and Intertidal Ornithology	• A143 *Calidris canutus*; • A151 *Philomachus pugnax*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; • A191 *Sterna sandvicensis*; • A162 *Tringa totanus*; and • Waterbird assemblage	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**
The Wash SPA	Offshore and Intertidal Ornithology	• A054 *Anas acuta*; • A050 *Anas penelope*; • A051 *Anas strepera*; • A040 *Anser brachyrhynchus*; • A169 *Arenaria interpres*; • A675 *Branta bernicla bernicla*; • A067 *Bucephala clangula;* • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A037 *Cygnus columbianus bewickii*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A616 *Limosa limosa islandica*; • A065 *Melanitta nigra*; • A160 *Numenius arquata*; • A141 *Pluvialis squatarola*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*;	• The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	• The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity; and • The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		• A048 *Tadorna tadorna*; • A162 *Tringa totanus*; and • Waterfowl assemblage					

4.2 Assessment of Adverse Effect Alone – Information to Inform Appropriate Assessment (Repurposed Offshore Artificial Nesting Structure)

4.2.1.1 Where potential for LSE on a European site(s) has been identified, there is a requirement to consider whether that potential effect(s) will adversely affect the integrity of the site in view of its conservation objectives (**Figure 20**). The potential for LSE for the repurposed offshore artificial nesting structure Compensation Measure is presented in **Table 9**. Potential for LSE applies where a feature is known to be sensitive to the effect and a potential pathway cannot be discounted.

4.2.1.2 The approach taken to HRA for the Compensation Measures is summarised in **Figure 21**. Where the screening conclusion is that there is a potential LSE, the primary measure applied to avoid an AEoI is mitigation. For Hornsea Four, these measures are identified in **Volume A4, Annex 5.2: Commitments Register**, with the commitments relevant to offshore compensation measures provided in **Table 7** for ease of reference. It should be noted, however, that ultimately, the Compensation Measures will not be consented through the Hornsea Four DCO application process and will be subject to (where necessary) standalone EIA and HRA processes as part of their own consenting process (for example a Marine Licence application and/or Planning Application). As part of that consenting process, further assessment work will be undertaken, based on refined design and methodology details.

4.2.1.3 The information to inform the AA for the repurposed offshore artificial nesting structure Compensation Measure is presented in **Table 10**; the table details all designated sites, features and effects for which a potential for LSE has been identified, proposes appropriate Commitments (mitigation) that could be applied to avoid or reduce the impacts, and provides conclusions on whether there is potential for AEoI after the application of these Commitments for the project alone. Consideration to AEoI in-combination is made in **Section 9**.

Table 10: Assessment of AEoI Alone for Repurposed Offshore Artificial Nesting Structure.

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
A1: Southern North Sea	Breydon Water Ramsar	• Criterion 5: Internationally important waterfowl assemblage (greater than 20,000 birds); and • Criterion 6: Over winter the site regularly supports internationally important numbers of: Bewick's Swan (*Cygnus columbianus bewickii*) and Lapwing (*Vanellus vanellus*	✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Gibraltar Point Ramsar	• Criterion 1: The dune and saltmarsh habitats present on the site are representative of all the stages of colonisation and stabilisation. There is a fine example of freshwater marsh containing sedges *Carex* spp., rushes *Juncus* spp.,	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		and ferns, including adder's-tongue fern *Ophioglossum vulgatum*. Also most northerly example of nationally rare saltmarsh/dune communities containing sea heath *Frankenia laevis*, rock sea lavender *Limonium binervosum* and shrubby seablite *Suaeda vera*.				and potential effects on benthic ecology.		extent and duration, there is **no potential for AEoI.**
			✘	✘	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Therefore, at this stage there is **no potential for AEoI.**
			✘	✘	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in	✓	✘	✘	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		winter: 53072 waterfowl (5 year peak mean 1998/99-2002/2003).	✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
		• Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Grey plover , *Pluvialis squatarola*; Sanderling , *Calidris alba*; Bar-tailed godwit, and *Limosa lapponica lapponica*. Species with peak counts in winter:Dark-bellied brent goose, *Branta bernicla bernicla*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Red knot	✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		, *Calidris canutus islandica*.						
A1: Southern North Sea	Humber Estuary Ramsar	• Ramsar Criterion 1: The site is a representative example of a near-natural estuary with the several named component habitats including: dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes , and coastal brackish/saline lagoons.	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✗	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Criterion 8: Estuary acts as an important migration route for both river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*) between coastal waters and their spawning areas	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on fish and shellfish ecology.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations resulting in potential effects on fish and shellfish ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in SSCs and deposition from removal of structure	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						resulting in potential effects on fish and shellfish ecology.		authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Effects on fish and shellfish receptors due to removal of structure leading to loss of hard substrates and structural complexity.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Citerion 3: The site supports a breeding colony of grey seals (*Halichoerus grypus*) at Donna Nook. It is the second largest grey seal colony in England and the furthest south	✓	✗	✗	Increased vessel traffic during repurposing may result in an increase in disturbance to or collision risk with marine mammals.	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		regular breeding site on the east coast;						extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✗	✗	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals.	COC-OFF-4	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
								practice at that time. Therefore, there is **no potential for AEoI.**
		• Citerion 5: Assemblages of international importance: 153,934 waterfowl, non-breeding season (5 year peak mean from 1996/97 to 2000/01); • Citerion 6: Common shelduck (*Tadorna tadorna*), Eurasian golden plover (*Pluvialis apricaria*), Red knot (*Calidris canutus*), islandica subspecies, Dunlin (*Calidris alpina*), Black-tailed godwit (*Limosa limosa*), Bar-tailed godwit (*Limosa lapponica*)and Common redshank (*Tringa totanus*)	✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI**.
A1: Southern North Sea	North Norfolk Coast Ramsar	• Ramsar criterion 1: The site is one of the largest expanses of undeveloped coastal habitat of its type in Europe. It is a	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		particularly good example of a marshland coast with intertidal sand and mud, saltmarshes, shingle banks and sand dunes. There are a series of brackish-water lagoons and extensive areas of freshwater grazing marsh and reed beds.						extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 98462 waterfowl (5 year peak mean 1998/99-2002/2003)	✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
		• Ramsar criterion 6 species/ populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species regularly supported during the breeding season: Sandwich tern, *Sterna sandvicensis sandvicensis*; Common tern , *Sterna hirundo hirundo*; and Little tern , Sterna *albifrons albifrons*. Species with peak counts in spring/autumn: Red knot, *Calidris canutus islandica*. Species with	✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		peak counts in winter: Pink-footed goose, *Anser brachyrhynchus*; Dark-bellied brent goose, *Branta bernicla bernicla*; Eurasian wigeon, *Anas penelope*; and Northern pintail , *Anas acuta*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Ringed plover, *Charadrius hiaticula*; Sanderling , *Calidris alba*; and Bar-tailed godwit , *Limosa lapponica lapponica*.						
A1: Southern North Sea	Teesmouth and Cleaveland Coast Ramsar	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 9528 waterfowl (5 year peak mean 1998/99-2002/2003).	✓	✘	✘	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		• Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank, *Tringa totanus totanus*. Species with peak counts in winter: Red knot, *Calidris canutus islandica*.	✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	The Wash Ramsar	• Ramsar criterion 1: The Wash is a large shallow bay comprising very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels. It is the largest estuarine system in Britain. • Ramsar criterion 3: Qualifies because of the	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		inter-relationship between its various components including saltmarshes, intertidal sand and mud flats and the estuarine waters. The saltmarshes and the plankton in the estuarine water provide a primary source of organic material which, together with other organic matter, forms the basis for the high productivity of the estuary.	✘	✘	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in	✓	✘	✘	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		winter: 292,541 waterfowl (5 year peak mean 1998/99-2002/2003).	✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
		• Ramsar criterion 6: Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank, *Tringa totanus totanus*; Eurasian curlew , *Numenius arquata arquata*,; Eurasian oystercatcher , *Haematopus ostralegus ostralegus*; Grey plover , *Pluvialis squatarola*; Red knot , *Calidris canutus islandica*; and Sanderling , *Calidris alba*. Species with peak counts in winter: Black-headed gull, *Larus ridibundus*; Common eider , *Somateria ollissima*	✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		mollissima; Bar-tailed godwit , *Limosa lapponica lapponica*; Common shelduck, *Tadorna tadorna*; Dark-bellied brent goose, *Branta bernicla bernicla*; Dunlin , *Calidris alpina alpina*; and Pink-footed goose, *Anser brachyrhynchus*. Species/ populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Black-tailed godwit, *Limosa limosa islandica*; and Ringed plover, *Charadrius hiaticula*. Species with peak counts in winter: European golden plover, *Pluvialis apricaria altifrons*; and Northern lapwing, *Vanellus vanellus*.						

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
A1: Southern North Sea	Dogger Bank SAC	• Sandbanks which are slightly covered by sea water all the time	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Dogger Bank SAC	• Reefs, and • Submerged or partially submerged sea caves	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						and potential effects on benthic ecology.		extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Vegetated sea cliffs of the Atlantic and Baltic Coasts	✓	✓	✓	Accidental pollution.	CoC-OFF-7	**no potential for AEoI.**
A1: Southern North Sea	Flamborough Head SAC	• Reefs; and • Submerged or partially submerged sea caves	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
								impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Haisborough, Hammond and Winterton SAC	• Sandbanks which are slightly covered by sea water all the time; and • Reefs.	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						and potential effects on benthic ecology.		extent and duration, there is **no potential for AEoI.**
			✘	✘	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Humber Estuary SAC	• Estuaries, Mudflats and sandflats not covered by seawater at low tide;	✓	✘	✘	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		• Sandbanks which are slightly covered by sea water all the time; • Salicornia and other annuals colonizing mud and sand; • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*);	✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
								practice at that time. Therefore, there is **no potential for AEoI.**
		• Embryonic shifting dunes; • "Shifting dunes along the shoreline with *Ammophila arenaria* (""white dunes"")"; • "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" (*Priority feature); and • Dunes with *Hippopha rhamnoides*.	✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
		• Sea lamprey, *Petromyzon marinus*; and • River lamprey, *Lampetra fluviatilis*	✓	✘	✘	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✘	✓	✘	Maintenance operations may result in temporary seabed disturbances and potential effects on fish and shellfish ecology.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✘	✘	✓	Temporary loss of habitat due to operations to remove structure, and associated jack-up operations	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						resulting in potential effects on fish and shellfish ecology.		operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Temporary increases in SSCs and deposition from removal of structure resulting in potential effects on fish and shellfish ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Effects on fish and shellfish receptors due to removal of structure leading to loss of hard substrates and structural complexity.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Decommissioning activities producing subsea noise resulting in potential effect on fish and shellfish receptors.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		Grey seal, *Halichoerus grypus*	✓	✘	✘	Increased vessel traffic during repurposing may result in an increase	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						in disturbance to or collision risk with marine mammals.		extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✗	✗	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals.	COC-OFF-4	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✗	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Inner Dowsing, Race Bank and North Ridge SAC	• Sandbanks which are slightly covered by sea water all the time; and • Reefs	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						deposition from removal of structure resulting in potential effects on benthic ecology.		determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Klaverbank SAC	Reefs	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						resulting in potential effects on benthic ecology.		operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		• Grey seal, *Halichoerus grypus*, • Harbour seal, *Phoca vitulina*; and • Harbour porpoise, *Phocoena phocoena*	✓	✗	✗	Increased vessel traffic during repurposing may result in an increase in disturbance to or collision risk with marine mammals.	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✗	✗	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals.	COC-OFF-4	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Underwater noise arising from decommissioning activities and	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						associated vessels may cause disturbance to marine mammals.		determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	North Norfolk Sandbanks and Saturn Reef SAC	• Sandbanks which are slightly covered by sea water all the time; and • Reefs	✓	✗	✗	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						resulting in potential effects on benthic ecology.		operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Southern North Sea SAC	Harbour porpoise (*Phocoena phocoena*)	✓	✗	✗	Increased vessel traffic during repurposing may result in an increase in disturbance to or collision risk with marine mammals.	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✘	✓	✘	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✘	✘	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals.	COC-OFF-4	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
A1: Southern North Sea	The Wash and North Norfolk Coast SAC	• Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; • Large shallow inlets and bays; • Reefs; • Salicornia and other annuals colonizing mud and sand; • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*);	✓	✘	✘	Temporary habitat loss/disturbance and direct damage by jack-up vessels.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✘	✓	✘	Maintenance operations may result in temporary seabed disturbances and potential effects on benthic ecology.	CoC-OFF-1	As a result of the implementation of CoC-OFF-1 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✘	✘	✓	Temporary loss of habitat due to operations to remove structure and associated jack-up operations resulting in potential effects on benthic ecology.	CoC-OFF-1	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✘	✘	✓	Temporary increases in suspended sediment concentrations and deposition from removal of structure resulting in potential effects on benthic ecology.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✗	✓	Removal of foundation leading to loss of species/ habitats colonising the structure.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
		Harbour porpoise (*Phocoena phocoena*)	✓	✗	✗	Increased vessel traffic during repurposing may result in an increase in disturbance to or collision risk with marine mammals.	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during operation and maintenance may result in an increase in disturbance to, or collision with marine mammals.	COC-OFF-4	As a result of the implementation of CoC-OFF-4 and the impact being highly limited in extent and duration, with the small number of vessels required for the works in the context of the vessel activity in the area there is, **no potential for AEoI.**
			✗	✗	✓	Increased vessel traffic during decommissioning activities may result in an increase in disturbance to, or collision risk with marine mammals..	COC-OFF-4	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
								practice at that time. Therefore, there is **no potential for AEoI**
			✗	✗	✓	Underwater noise arising from decommissioning activities and associated vessels may cause disturbance to marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
			✗	✗	✓	Increased suspended sediments arising from decommissioning activities may impair the foraging ability of marine mammals.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

A1: Southern North Sea	Breydon Water SPA	• A037 *Cygnus columbianus bewickii*;
		• A151 *Philomachus pugnax*;
		• A140 *Pluvialis apricaria*;
		• A132 *Recurvirostra avosetta*;
		• A193 *Sterna hirundo*;
		  • A142 *Vanellus vanellus*; and
		  • Waterfowl assemblage.
			✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**

			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						disturbance or displacement from important foraging and habitat areas of birds.		authorities towards the end of the 35-year operational life of Hornsea Four. Therefore, at this stage there is **no potential for AEoI.**

A1: Southern North Sea	Flamborough & Filey Coast SPA	• A200 *Alca torda;*
		• A016 *Morus bassanus*;
		• A188 *Rissa tridactyla*;
		  • A199 *Uria aalge*; and
		  • Seabird assemblage.
			✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**

			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

A1: Southern North Sea	Gibraltar Point SPA	• A144 *Calidris alba*;
		• A157 *Limosa lapponica*;
		  • A141 *Pluvialis squatarola*; and
		  • A195 *Sterna albifrons*
			✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**

			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Greater Wash SPA	• *A001 Gavia stellata;* • *A177 Larus minutus;* • *A065 Melanitta nigra;* • *A195 Sterna albifrons;* • *A193 Sterna hirundo; and* • *A191 Sterna sandvicensis.*	✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Humber Estuary SPA	• A052 *Anas crecca;* • A050 *Anas penelope;* • A053 *Anas platyrhynchos;* • A169 *Arenaria interpres;*	✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		• A059 *Aythya ferina*; • A062 *Aythya marila*; • A021 *Botaurus stellaris*; • A675 *Branta bernicla bernicla*; • A067 *Bucephala clangula*; • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A137 *Charadrius hiaticula*; • A137 *Charadrius hiaticula*; • A081 *Circus aeruginosus*; • A082 *Circus cyaneus*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A616 *Limosa limosa islandica*; • A160 *Numenius arquata*; • A158 *Numenius phaeopus*; • A151 *Philomachus pugnax*; • A140 *Pluvialis apricaria*; • A141 *Pluvialis squatarola*;	✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		• A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A048 *Tadorna tadorna*; • A164 *Tringa nebularia*; • A162 *Tringa totanus*; • A142 *Vanellus vanellus*; and • Waterfowl assemblage						
A1: Southern North Sea	North Norfolk Coast SPA	• A050 *Anas penelope*; • A040 *Anser brachyrhynchus*; • A021 *Botaurus stellaris*; • A675 *Branta bernicla bernicla*; • A143 *Calidris canutus*; • A081 *Circus aeruginosus*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; and • A191 *Sterna sandvicensis*.	✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Outer Thames Estuary SPA	• A001 *Gavia stellata*; • A195 *Sterna albifrons*; and	✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		• A193 *Sterna hirundo*.				displacement from important foraging and habitat areas of birds.		
			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	Teesmouth and Cleaveland Coast SPA	• A143 *Calidris canutus*; • A151 *Philomachus pugnax*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; • A191 *Sterna sandvicensis*; • A162 *Tringa totanus*; and • Waterbird assemblage	✓	✗	✗	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✗	✗	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
								practice at that time. Therefore, there is **no potential for AEoI.**
A1: Southern North Sea	The Wash SPA	• A054 *Anas acuta*; • A050 *Anas penelope*; • A051 *Anas strepera*; • A040 *Anser brachyrhynchus*; • A169 *Arenaria interpres*; • A675 *Branta bernicla bernicla*; • A067 *Bucephala clangula*; • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A037 *Cygnus columbianus bewickii*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A616 *Limosa limosa islandica*; • A065 *Melanitta nigra*; • A160 *Numenius arquata*; • A141 *Pluvialis squatarola*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; • A048 *Tadorna tadorna*;	✓	✘	✘	The impact of construction activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	N/A	Due to the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✓	The impact of pollution including accidental spills and contaminant releases which may affect species' survival rates or foraging activity.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✘	✘	✓	The impact of direct disturbance and displacement due to underwater noise and vessel traffic may result in disturbance or displacement from important foraging and habitat areas of birds.	N/A	The requirement for, and the exact nature of decommissioning the nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four. Risk of impact would be managed in line with best practice at that time. Therefore, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		• A162 *Tringa totanus*; and Waterfowl assemblage						

5 Habitats Regulations Assessment – New Onshore Artificial Nesting Structure

5.1 Assessment of the Potential for LSE - New Onshore Artificial Nesting Structure

5.1.1.1 The identification of site and features process (described in Section 2.3.3) generated a list of designated sites (sites designated for their geological interest, i.e. that have no ecological/ornithological interest, have been excluded) and relevant features for which there is a need to consider the potential for LSE in relation to the new onshore artificial nesting structure Compensation Measure. In addition, in Section 2.3.2, the likely effects that may result during installation/construction, implementation/operation and decommissioning of new onshore artificial nesting structure Compensation Measure (and are relevant to the receptors being considered here) were identified to enable these to be considered. This section combines that information for the project alone and presents the assessment of potential LSE for the project alone with the information presented in Table 11 for Clayton Bay to Blyth AoS (B1) and Table 12 for the Suffolk Coast AoS (B2).

5.1.1.2 The assessment of potential LSE is made based on three clear parameters, as defined in Table 5. The presence or absence of a pathway is based on the scope and nature of the proposed Compensation Measure activities together with the location of the designated feature, with the sensitivity of the feature(s) drawing on the relevant information available for the designated sites (provided in Appendix B).

Table 11: Screening based on potential LSE from New Onshore Artificial Nesting Structure in Clayton Bay to Blyth AoS (B1).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Northumbria Coast SPA and Ramsar site	Onshore ornithology	• Breeding populations of Artic tern and Little tern and non-breeding populations of Purple sandpiper and Turnstone	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation. • Disturbance to protected species from temporary site lighting. • Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure and/or access track. • Loss of supporting habitat within the	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano. • Loss of supporting habitat within the footprint of the structure.	• Disturbance to protected species from temporary site lighting. • Disturbance to protected species from vegetation clearance required for decommissioning. • Increase in noise and vibration to ecological receptors due to HGV movements associated with decommissioning activities	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
			footprint of the structure.				
Durham Coast SAC	Annex I Habitats	• Vegetated sea cliffs of the Atlantic and Baltic coasts	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and construction plant. • Potential for habitat loss and/or destruction due to construction access and compound.	• Changes to habitat in area contained by fencing due to decreased nutrient concentrations from guano and removal of fencing.	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and decommissioning plant. • Potential for habitat loss and/or destruction due to decommissioning activities.	C	**Potential for LSE**
Teesmouth and Cleveland Coast SPA and Ramsar site	Onshore ornithology	• Habitats supporting nationally and internationally important breeding and non-breeding birds	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation. • Disturbance to protected species from temporary site lighting. • Increase in noise and vibration to ecological receptors due	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano. • Loss of supporting habitat within the footprint of the structure.	• Disturbance to protected species from temporary site lighting. • Disturbance to protected species from vegetation clearance required for decommissioning. • Increase in noise and vibration to ecological receptors due to HGV movements	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
			to HGV movements associated with delivery of pre-fabricated structure or construction of structure and/or access track. • Loss of supporting habitat within the footprint of the structure.		associated with decommissioning activities		
Beast Cliff Whitby Robin Hood's Bay SAC	Annex I Habitats	• Vegetated sea cliffs of the Atlantic and Baltic coasts	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and construction plant. • Potential for habitat loss and/or destruction due to construction access and compound.	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing.	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing. • Potential for dust generation and nitrogen deposition at designated sites from HGVs and decommissioning plant.	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
					• Potential for habitat loss and/or destruction due to decommissioning activities.		
Castle Eden Dene SAC	Annex I Habitats	• Taxus baccata woods of the British Isles	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and construction plant. • Potential for habitat loss and/or destruction due to construction access and compound.	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing.	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing. • Potential for dust generation and nitrogen deposition at designated sites from HGVs and decommissioning plant. • Potential for habitat loss and/or destruction due to decommissioning activities.	C	**Potential for LSE**

Table 12: Screening based on potential LSE from New Onshore Artificial Nesting Structure in Suffolk Coast AoS (B2)

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Great Yarmouth North Denes SPA	Annex I Species	• Little tern	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation. • Disturbance to protected species from temporary site lighting. • Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure and/or access track. • Loss of supporting habitat within the footprint of the structure.	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano. • Loss of supporting habitat within the footprint of the structure.	• Disturbance to protected species from temporary site lighting. • Disturbance to protected species from vegetation clearance required for decommissioning. •	C	**Potential for LSE**

Table 12: Screening based on potential LSE from New Onshore Artificial Nesting Structure in Suffolk Coast AoS (B2)

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Benacre to Easton Bavents Lagoons SAC, SPA	Annex I Species	• Little tern	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation. • Disturbance to protected species from temporary site lighting. • Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure and/or access track. • Loss of supporting habitat within the footprint of the structure.	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano. • Loss of supporting habitat within the footprint of the structure.	• Disturbance to protected species from temporary site lighting. • Disturbance to protected species from vegetation clearance required for decommissioning.	C	**Potential for LSE**

Table 12: Screening based on potential LSE from New Onshore Artificial Nesting Structure in Suffolk Coast AoS (B2)

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Minsmere-Walberswick Heaths and Marshes SAC and Ramsar site	Annex I Habitat	• European dry heaths	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation. • Disturbance to protected species from temporary site lighting. • Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure and/or access track. • . Potential for habitat loss and/or destruction due to construction access and compound.	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano.	• Disturbance to protected species from temporary site lighting. • Disturbance to protected species from vegetation clearance required for decommissioning. • Potential for habitat loss and/or destruction due to decommissioning activities.	C	**Potential for LSE**

Table 12: Screening based on potential LSE from New Onshore Artificial Nesting Structure in Suffolk Coast AoS (B2)

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
	Terrestrial habitats	• Grazing marsh supporting breeding birds, flora and insect fauna	• Loss of supporting habitat within the footprint of the structure.	• Loss of supporting habitat within the footprint of the structure.	•		**Potential for LSE**
Sandlings SPA	Onshore ornithology and terrestrial habitats	• Heath and woodland supporting woodlark and nightjar alongside invertebrates	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation. • Disturbance to protected species from temporary site lighting. • Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure and/or access track. • . Potential for habitat loss	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano. • Loss of supporting habitat within the footprint of the structure.	• Disturbance to protected species from temporary site lighting. • Disturbance to protected species from vegetation clearance required for decommissioning. • Potential for habitat loss and/or destruction due to decommissioning activities.	C	**Potential for LSE**

Table 12: Screening based on potential LSE from New Onshore Artificial Nesting Structure in Suffolk Coast AoS (B2)

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
			and/or destruction due to construction access and compound. • Loss of supporting habitat within the footprint of the structure.				

5.2 Assessment of Adverse Effect Alone – Information to Inform Appropriate Assessment (New Onshore Artificial Nesting Structure)

5.2.1.1 Where potential for LSE on a European site(s) has been identified, there is a requirement to consider whether that potential effect(s) will adversely affect the integrity of the site in view of its conservation objectives (**Figure 20**). The potential for LSE for the new onshore artificial nesting structure Compensation Measure is presented in **Table 11**. Potential for LSE applies where a feature is known to be sensitive to the effect and a potential pathway cannot be discounted.

5.2.1.2 The approach taken to HRA for the Compensation Measures is summarised in **Figure 21**. Where the screening conclusion is that there is a potential LSE, the primary measure applied to avoid an AEoI is mitigation. For Hornsea Four, these measures are identified in **Volume A4, Annex 5.2: Commitments Register**, with the commitments relevant to onshore compensation measures provided in **Table 13** for ease of reference. It should be noted, however, that ultimately, the Compensation Measures will not be consented through the Hornsea Four DCO application process and will be subject to (where necessary) standalone EIA and HRA processes as part of their own consenting process (for example a Marine Licence application and/or Planning Application). As part of that consenting process, further assessment work will be undertaken, based on refined design and methodology details.

5.2.1.3 The information to inform the AA for the new onshore artificial nesting structure Compensation Measure is presented in **Table 14**; the table details all designated sites, features and effects for which a potential for LSE has been identified, proposes appropriate Commitments (mitigation) that could be applied to avoid or reduce the impacts, and provides conclusions on whether there is potential for AEoI after the application of these Commitments for the project alone. Consideration to AEoI in-combination is made in **Section 9**.

Table 13 Commitment tables relating to onshore compensation measures.

Commitment Reference	Commitment Details
CoC-ON-1	Consideration of the timing and location of predator eradication programme will be made to ensure that it is undertaken at the optimal time/location and that it will not affect a non-target species. Design of eradication programme and eradication methods will follow current good practise design to minimise impact on sensitive habitats, non target species and disruption to land use.
CoC-ON-7	All logistics compounds will be removed and sites will be reinstated when construction has been completed.
CoC-ON-13	Where hedgerows and/or trees require removal, this will be undertaken prior to topsoil removal. Sections of hedgerows and trees which are removed will be replaced using like for like hedgerow species.
CoC-ON-14	Trees identified to be retained will be fenced off and worked around. Where works are required close to trees that will remain in situ, techniques will be used to safeguard the root protection zone.
CoC-ON-15	All vegetation requiring removal will be undertaken outside of the bird breeding season. If this is not reasonably practicable, the vegetation requiring removal will be subject to a nesting bird check by a suitably qualified Ecological Clerk of Works (ECoW). If nesting birds are present, the vegetation will not be removed until the young have fledged or the nest failed.

Commitment Reference	Commitment Details
CoC-ON-16	Where required, provision will be made for badger access in relevant construction areas, when work is not taking place in order to ensure normal movements as far as reasonably possible. Provision will be made to ensure avoiding the entrapment of any animals within relevant construction areas. Checks will be made prior to the start of any works to ensure no animals are trapped. Appropriate checks will be made as required by the ECoW.
CoC-ON-17	All ponds identified during the site selection process will be avoided where possible. During construction newly identified ponds will be avoided where reasonably practicable.
CoC-ON-18	Construction site lighting will only operate when required and will be positioned and directed to avoid unnecessary illumination to residential properties, sensitive ecological receptors, footpath users, and minimise glare to users of adjoining public highways. Construction site lighting will be designed in accordance with latest relevant available guidance and legislation and the details of the location, height, design and luminance of lighting to be used will be detailed within documents submitted as part of the Planning Application.
CoC-ON-19	Good practice air quality management measures will be applied where human receptors reside within 350 m of works or ecological receptors are present within 200 m, as described in Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction 2014, version 1.1, or latest relevant available guidance.
CoC-ON-23	HGV movements associated with operation and planned maintenance of the onshore infrastructure will operate only between the hours of 0700 – 2300. HGV movements may however be subject to unscheduled maintenance activities outside these hours. In this event the council will be informed via writing.
CoC-ON-30	A range of sensitive historical, cultural and ecological conservation areas (including statutory and non-statutory designations) will be directly avoided by the permanent footprint. These include, but are not restricted to: Listed Buildings; Scheduled Monuments; Registered Parks and Gardens; Onshore Conservation Areas; Onshore National Site Network; Sites of Special Scientific Interest; Local Nature Reserves; Local Wildlife sites; Royal Society for the Protection of Birds (RSPB) Reserves; Heritage Coast; National Trust land; Ancient Woodland and known Tree Preservation Orders (TPOs)); non-designated built heritage assets; and historic landfill. Where possible, unprotected areas of woodland, mature and protected trees (i.e. veteran trees) will also be avoided.
CoC-ON-31	Good practice guidance detailed in the Environment Agency's Pollution Prevention Guidance (PPG) notes (including PPG01, PPG05, PPG08 and PPG21) will be followed where appropriate, or the latest relevant available guidance.
CoC-ON-33	Implementation of the use of Best Available Techniques (BAT), appropriate measures, due diligence or all reasonable precautions to minimise noise and odour.
CoC-ON-35	Annual monitoring and remedial works through adherence to a habitat management plan.
CoC-ON-39	A site selection and onshore nesting project implementation plan will be created in consultation with regulators, stakeholders and local community. Stakeholders and the local community will be informed three months prior to construction starting. Onshore nesting project implementation plan to be submitted via the Town and Country Planning Act (TCPA) if required.
CoC-ON-40	Site selection will avoid track or nesting structure locations within 100m (or suitable buffer) of a waterbody (as defined by Water Framework Directive (WFD) or pond.
CoC-ON-44	HGV movements within designated sites will be avoided where possible.
CoC-ON-45	Priority habitat will be avoided during site selection process.

Table 14: Assessment of AEoI Alone for New Onshore Artificial Nesting Structure.

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
B1: Clayton Bay to Blyth	Northumbria Coast SPA, Ramsar	• Breeding populations of Artic tern and Little tern and non-breeding populations of Purple sandpiper and Turnstone	✓	✗	✓	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation.	CoC-ON-13 CoC-ON-14 COC-ON-15 CoC-ON-17 CoC-ON-35	As a result of the implementation of commitments to reinstate lost habitat (CoC-ON-13 and CoC-ON-14), to consider the timing of the vegetation removal (CoC-ON-15), avoid ponds (CoC-ON-17) and adherence to annual monitoring and remedial works via a habitat management plan (CoC-ON-35), the magnitude of impact on Artic tern, Little tern, Purple sandpiper and Turnstone would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Disturbance to protected species from temporary site lighting.	CoC-ON-18	As a result of the implementation of commitments to limit construction site lighting (CoC-ON-18), the magnitude of impact on Artic tern, Little tern, Purple sandpiper and Turnstone would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure, and construction of access track.	CoC-ON-23 CoC-ON-39	As a result of the implementation of commitments to limit HGV movements (CoC-ON-23) and application of an onshore nesting project implementation plan (CoC-ON-39), the magnitude of impact on Artic tern, Little tern, Purple sandpiper and Turnstone would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✗	✓	✗	• Changes to habitat in area contained by fencing due to increased nutrient	CoC-ON-35 CoC-ON-45	As a result of the implementation of commitments to adhere to annual monitoring and remedial works via a habitat management

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						concentrations from guano and removal of fencing.		plan (CoC-ON-35) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on Artic tern, Little tern, Purple sandpiper and Turnstone would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✓	✗	• Loss of supporting habitat within the footprint of the structure.	CoC-ON-30 CoC-ON-45	The magnitude of effect associated with the permanent footprint of the onshore artificial nesting structures is considered to be minor as the area required under the Maximum Design Parameters is 0.04ha. In addition, as a result of the implementation of commitments including avoidance of statutory and non-statutory designations (CoC-ON-30) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitat would be limited in extent given its footprint (0.04ha). Therefore, there is **no potential for AEoI**.
	Durham Coast SSSI, SAC	• Vegetated sea cliffs of the Atlantic and Baltic coasts	✓	✗	✓	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and construction plant.	CoC-ON-19 CoC-ON-30 CoC-ON-43	As a result of the implementation of commitments to good practice air quality management measures (CoC-ON-19), avoidance of statutory and non-statutory designations (CoC-ON-30) and habitat enhancement (CoC-ON-43). the magnitude of impact on vegetated sea cliffs would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Potential for habitat loss and/or destruction due to construction and decommissioning activities.	CoC-ON-7 CoC-ON-30 CoC-ON-44 CoC-ON-45	As a result of the implementation of commitments to reinstate logistics compounds (CoC-ON-7), avoidance of statutory and non-statutory designations (CoC-ON-30), limiting

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
								HGV movement within designated sites (CoC-ON-44) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on vegetated sea cliffs would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✗	✓	✗	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing.	CoC-ON-35 CoC-ON-45	As a result of the implementation of commitments to adhere to annual monitoring and remedial works via a habitat management plan (CoC-ON-35) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on vegetated sea cliffs would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and decommissioning plant.	CoC-ON-19 CoC-ON-30 CoC-ON-43	As a result of the implementation of commitments to good practice air quality management measures (CoC-ON-19), avoidance of statutory and non-statutory designations (CoC-ON-30) and habitat enhancement (CoC-ON-43). the magnitude of impact on vegetated sea cliffs would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
	Teesmouth and Cleveland Coast SPA, Ramsar	• Habitats supporting nationally and internationally important breeding and non-breeding birds	✓	✗	✓	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation.	CoC-ON-13 CoC-ON-14 COC-ON-15 CoC-ON-17 CoC-ON-35	As a result of the implementation of commitments to reinstate lost habitat (CoC-ON-13 and CoC-ON-14), to consider the timing of the vegetation removal (CoC-ON-15), avoid ponds (CoC-ON-17) and adherence to annual monitoring and remedial works via a habitat management plan (CoC-ON-35), the magnitude of impact on habitats supporting nationally and internationally important breeding and non-

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
								breeding birds would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✘	✓	• Disturbance to protected species from temporary site lighting.	CoC-ON-18	As a result of the implementation of commitments to limit construction site lighting (CoC-ON-18), the magnitude of impact on habitats supporting nationally and internationally important breeding and non-breeding birds would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✘	✓	• Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure, and construction of access track.	CoC-ON-23 CoC-ON-39	As a result of the implementation of commitments to limit HGV movements (CoC-ON-23) and application of an onshore nesting project implementation plan (CoC-ON-39), the magnitude of impact on habitats supporting nationally and internationally important breeding and non-breeding birds would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✘	✓	✘	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing.	CoC-ON-35 CoC-ON-45	As a result of the implementation of commitments to adhere to annual monitoring and remedial works via a habitat management plan (CoC-ON-35) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitats supporting nationally and internationally important breeding and non-breeding birds would be limited in extent and duration. Therefore, there is **no potential for AEoI**.

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✓	✓	✗	• Loss of supporting habitat within the footprint of the structure.	CoC-ON-30 CoC-ON-45	The magnitude of effect associated with the permanent footprint of the onshore artificial nesting structures is considered to be minor as the area required under the Maximum Design Parameters is 0.04ha. In addition, as a result of the implementation of commitments including avoidance of statutory and non-statutory designations (CoC-ON-30) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitat would be limited in extent given its footprint (0.04ha). Therefore, there is **no potential for AEoI**.
	Beast Cliff Whitby Robin Hood's SAC	• Vegetated sea cliffs	✓	✗	✓	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and construction plant.	CoC-ON-19 CoC-ON-30 CoC-ON-43	As a result of the implementation of commitments to good practice air quality management measures (CoC-ON-19), avoidance of statutory and non-statutory designations (CoC-ON-30) and habitat enhancement (CoC-ON-43). the magnitude of impact on vegetated sea cliffs would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Potential for habitat loss and/or destruction due to construction and decommissioning activities.	CoC-ON-7 CoC-ON-30 CoC-ON-44 CoC-ON-45	As a result of the implementation of commitments to reinstate logistics compounds (CoC-ON-7), avoidance of statutory and non-statutory designations (CoC-ON-30), limiting HGV movement within designated sites (CoC-ON-44) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on vegetated sea cliffs would be limited in extent and duration. Therefore, there is **no potential for AEoI**.

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✓	✗	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing.	CoC-ON-35 CoC-ON-45	As a result of the implementation of commitments to adhere to annual monitoring and remedial works via a habitat management plan (CoC-ON-35) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on vegetated sea cliffs would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
	Castle Eden Dene SAC	• Woodland, grassland and nationally and regionally rare invertebrates	✓	✗	✓	Potential for dust generation and nitrogen deposition at designated sites from HGVs and construction plant.	CoC-ON-19 CoC-ON-30 CoC-ON-43	As a result of the implementation of commitments to good practice air quality management measures (CoC-ON-19), avoidance of statutory and non-statutory designations (CoC-ON-30) and habitat enhancement (CoC-ON-43). the magnitude of impact on habitats supporting regionally rare invertebrates would be limited in extent and duration and therefore **no potential for AEoI**.
			✓	✗	✓	• Potential for habitat loss and/or destruction due to construction and decommissioning activities.	CoC-ON-7 CoC-ON-30 CoC-ON-44 CoC-ON-45	As a result of the implementation of commitments to reinstate logistics compounds (CoC-ON-7), avoidance of statutory and non-statutory designations (CoC-ON-30), limiting HGV movement within designated sites (CoC-ON-44) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitats supporting regionally rare invertebrates would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✗	✓	✗	• Changes to habitat in area contained by fencing due to decreased nutrient	CoC-ON-35 CoC-ON-45	As a result of the implementation of commitments to adhere to annual monitoring and remedial works via a habitat management

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						concentrations from guano and removal of fencing.		plan (CoC-ON-35) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitats supporting regionally rare invertebrates would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
B2: Suffolk Coast	Great Yarmouth North Denes SPA	• Little tern	✓	✖	✓	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation.	CoC-ON-13 CoC-ON-14 COC-ON-15 CoC-ON-17 CoC-ON-35	As a result of the implementation of commitments to reinstate lost habitat (CoC-ON-13 and CoC-ON-14), to consider the timing of the vegetation removal (CoC-ON-15), avoid ponds (CoC-ON-17) and adherence to annual monitoring and remedial works via a habitat management plan (CoC-ON-35), the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✖	✓	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and construction plant.	CoC-ON-19 CoC-ON-30 CoC-ON-43	As a result of the implementation of commitments to good practice air quality management measures (CoC-ON-19), avoidance of statutory and non-statutory designations (CoC-ON-30) and habitat enhancement (CoC-ON-43). the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✖	✓	• Disturbance to protected species from temporary site lighting.	CoC-ON-18	As a result of the implementation of commitments to limit construction site lighting (CoC-ON-18), the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✓	✗	✓	• Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure, and construction of access track.	CoC-ON-23 CoC-ON-39	As a result of the implementation of commitments to limit HGV movements (CoC-ON-23) and application of an onshore nesting project implementation plan (CoC-ON-39), the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✗	✓	✗	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing.	CoC-ON-35 CoC-ON-45	As a result of the implementation of commitments to adhere to annual monitoring and remedial works via a habitat management plan (CoC-ON-35) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✓	✗	• Loss of supporting habitat within the footprint of the structure.	CoC-ON-30 CoC-ON-45	The magnitude of effect associated with the permanent footprint of the onshore artificial nesting structures is considered to be minor as the area required under the Maximum Design Parameters is 0.04ha. In addition, as a result of the implementation of commitments including avoidance of statutory and non-statutory designations (CoC-ON-30) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitat would be limited in extent given its footprint (0.04ha). Therefore, there is **no potential for AEoI**.
	Benacre to Easton Bavents Lagoons SAC, NNR, SPA	• Little tern	✓	✗	✓	• Disturbance to protected species from vegetation clearance (if required)	CoC-ON-13 CoC-ON-14 COC-ON-15	As a result of the implementation of commitments to reinstate lost habitat (CoC-ON-13 and CoC-ON-14), to consider the timing of the

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						resulting in habitat loss and fragmentation.	CoC-ON-17 CoC-ON-35	vegetation removal (CoC-ON-15), avoid ponds (CoC-ON-17) and adherence to annual monitoring and remedial works via a habitat management plan (CoC-ON-35), the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and construction plant.	CoC-ON-19 CoC-ON-30 CoC-ON-43	As a result of the implementation of commitments to good practice air quality management measures (CoC-ON-19), avoidance of statutory and non-statutory designations (CoC-ON-30) and habitat enhancement (CoC-ON-43). the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Disturbance to protected species from temporary site lighting.	CoC-ON-18	As a result of the implementation of commitments to limit construction site lighting (CoC-ON-18), the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure, and construction of access track.	CoC-ON-23 CoC-ON-39	As a result of the implementation of commitments to limit HGV movements (CoC-ON-23) and application of an onshore nesting project implementation plan (CoC-ON-39), the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✗	✓	✗	• Changes to habitat in area contained by fencing due to increased nutrient	CoC-ON-35 CoC-ON-45	As a result of the implementation of commitments to adhere to annual monitoring and remedial works via a habitat management

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						concentrations from guano and removal of fencing.		plan (CoC-ON-35) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on Little tern would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✓	✘	• Loss of supporting habitat within the footprint of the structure.	CoC-ON-30 CoC-ON-45	The magnitude of effect associated with the permanent footprint of the onshore artificial nesting structures is considered to be minor as the area required under the Maximum Design Parameters is 0.04ha. In addition, as a result of the implementation of commitments including avoidance of statutory and non-statutory designations (CoC-ON-30) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitat would be limited in extent given its footprint (0.04ha). Therefore, there is **no potential for AEoI**.
	Minsmere-Walberswick Heaths and Marshes SSSI, Ramsar, SAC, SPA	• European dry heath • Grazing marsh supporting breeding birds	✓	✘	✓	• Disturbance to protected species from vegetation clearance (if required) resulting in habitat loss and fragmentation.	CoC-ON-13 CoC-ON-14 COC-ON-15 CoC-ON-17 CoC-ON-35	As a result of the implementation of commitments to reinstate lost habitat (CoC-ON-13 and CoC-ON-14), to consider the timing of the vegetation removal (CoC-ON-15), avoid ponds (CoC-ON-17) and adherence to annual monitoring and remedial works via a habitat management plan (CoC-ON-35), the magnitude of impact on European dry heath and grazing marsh habitat would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✘	✓	• Potential for dust generation and nitrogen deposition at	CoC-ON-19 CoC-ON-30	As a result of the implementation of commitments to good practice air quality

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						designated sites from HGVs and construction plant.	CoC-ON-43	management measures (CoC-ON-19), avoidance of statutory and non-statutory designations (CoC-ON-30) and habitat enhancement (CoC-ON-43). the magnitude of impact on European dry heath and grazing marsh habitat would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Disturbance to protected species from temporary site lighting.	CoC-ON-18	As a result of the implementation of commitments to limit construction site lighting (CoC-ON-18), the magnitude of impact on European dry heath and grazing marsh habitat would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Increase in noise and vibration to ecological receptors due to HGV movements associated with delivery of pre-fabricated structure or construction of structure, and construction of access track.	CoC-ON-23 CoC-ON-39	As a result of the implementation of commitments to limit HGV movements (CoC-ON-23) and application of an onshore nesting project implementation plan (CoC-ON-39), the magnitude of impact on European dry heath and grazing marsh habitat would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✗	✓	✗	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing.	CoC-ON-35 CoC-ON-45	As a result of the implementation of commitments to adhere to annual monitoring and remedial works via a habitat management plan (CoC-ON-35) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on European dry heath and grazing marsh habitat would be limited in extent and duration. Therefore, there is **no potential for AEoI**.

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✓	✗	✓	• Habitat disturbance/ fragmentation from vegetation clearance required for decommissioning.	CoC-ON-13 CoC-ON-14	As a result of the implementation of commitments to reinstate lost habitat (CoC-ON-13 and CoC-ON-14), the magnitude of impact on European dry heath and grazing marsh habitat would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✗	✓	• Potential for habitat loss and/or destruction due to construction and decommissioning activities.	CoC-ON-7 CoC-ON-30 CoC-ON-44 CoC-ON-45	As a result of the implementation of commitments to reinstate logistics compounds (CoC-ON-7), avoidance of statutory and non-statutory designations (CoC-ON-30), limiting HGV movement within designated sites (CoC-ON-44) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on European dry heath and grazing marsh habitat would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✓	✗	• Loss of supporting habitat within the footprint of the structure.	CoC-ON-30 CoC-ON-45	The magnitude of effect associated with the permanent footprint of the onshore artificial nesting structures is considered to be minor as the area required under the Maximum Design Parameters is 0.04ha. In addition, as a result of the implementation of commitments including avoidance of statutory and non-statutory designations (CoC-ON-30) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitat would be limited in extent given its footprint (0.04ha). Therefore, there is **no potential for AEoI**.
	Sandlings SPA	• Heath and woodland supporting woodlark and	✓	✗	✓	• Disturbance to protected species from vegetation	CoC-ON-13 CoC-ON-14	As a result of the implementation of commitments to reinstate lost habitat (CoC-ON-

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
		nightjar alongside invertebrates				clearance (if required) resulting in habitat loss and fragmentation.	CoC-ON-17 CoC-ON-35	13 and CoC-ON-14), to consider the timing of the vegetation removal (CoC-ON-15), avoid ponds (CoC-ON-17), avoidance of statutory and non-statutory designations (CoC-ON-30) and adherence to annual monitoring and remedial works via a habitat management plan (CoC-ON-35), the magnitude of impact on habitat supporting woodlark and nightjar alongside invertebrates would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✘	✓	• Potential for dust generation and nitrogen deposition at designated sites from HGVs and construction plant.	CoC-ON-19 CoC-ON-30 CoC-ON-43	As a result of the implementation of commitments to good practice air quality management measures (CoC-ON-19), avoidance of statutory and non-statutory designations (CoC-ON-30) and habitat enhancement (CoC-ON-43). the magnitude of impact on habitat supporting woodlark and nightjar alongside invertebrates would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✘	✓	• Disturbance to protected species from temporary site lighting.	CoC-ON-18	As a result of the implementation of commitments to limit construction site lighting (CoC-ON-18), the magnitude of impact on habitat supporting woodlark and nightjar alongside invertebrates would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✘	✓	• Increase in noise and vibration to ecological receptors due to	CoC-ON-23 CoC-ON-39	As a result of the implementation of commitments to limit HGV movements (CoC-

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						HGV movements associated with delivery of pre-fabricated structure or construction of structure, and construction of access track.		ON-23) and application of an onshore nesting project implementation plan (CoC-ON-39), the magnitude of impact on habitat supporting woodlark and nightjar alongside invertebrates would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✘	✓	✘	• Changes to habitat in area contained by fencing due to increased nutrient concentrations from guano and removal of fencing.	CoC-ON-35 CoC-ON-45	As a result of the implementation of commitments to adhere to annual monitoring and remedial works via a habitat management plan (CoC-ON-35) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitat supporting woodlark and nightjar alongside invertebrates would be limited in extent and duration. Therefore, there is **no potential for AEoI**.
			✓	✓	✘	• Loss of supporting habitat within the footprint of the structure.	CoC-ON-30 CoC-ON-45	The magnitude of effect associated with the permanent footprint of the onshore artificial nesting structures is considered to be minor as the area required under the Maximum Design Parameters is 0.04ha. In addition, as a result of the implementation of commitments including avoidance of statutory and non-statutory designations (CoC-ON-30) and avoidance of priority habitat (CoC-ON-45), the magnitude of impact on habitat would be limited in extent given its footprint (0.04ha). Therefore, there is **no potential for AEoI**.

6 Habitats Regulations Assessment – Bycatch Reduction Technology

6.1 Assessment of the Potential for LSE - Bycatch Reduction Technology

6.1.1.1 Screening for potential LSE considers the effects that may result during installation/ construction, implementation/ O&M and decommissioning of the Bycatch Reduction technology Compensation Measure, as defined in **Section 2.3.2,** in relation to the designated sites identified in **Section 2.3.3**. The outcome of this process determined that there are no predicted effects that are likely to impact any receptor group. Therefore, it has been concluded that there is no potential for LSE for any site or receptor with respect to this Compensation Measure.

6.2 Assessment of Adverse Effect Alone – Information to Inform Appropriate Assessment (Bycatch Reduction Technology)

6.2.1.1 Where potential for LSE on a European site(s) has been identified, there is a requirement to consider whether that potential effect(s) will adversely affect the integrity of the site in view of its conservation objectives (**Figure 20**). Potential for LSE applies where a feature is known to be sensitive to the effect and a potential pathway cannot be discounted. As no potential for LSE was identified at any site, there is no potential for AEoI anticipated and there are no commitments designed for this Compensation Measure.

6.2.1.2 The conclusions on potential for LSE in all cases therefore mean that the Bycatch Reduction technology Compensation Measure does not need to progress to Stage 2 AA and no assessment of the potential for AEoI is made alone. The lack of any pathway for the effect alone means no potential for any contribution to an AEoI in-combination.

7 Habitats Regulations Assessment – Predator Eradication

7.1 Assessment of the Potential for LSE - Predator Eradication

7.1.1.1 Screening for potential LSE considers the effects that may result during installation/ construction, implementation/ operation/ maintenance and decommissioning of the predator eradication Compensation Measure, as defined in **Section 2.3.2,** in relation to the designated sites identified in **Section 2.3.3**. This section combines that information to determine the potential LSE for the project alone. Key to the potential for LSE are the clear presence or absence of a pathway, linking the effect to a designated site or feature, together with known sensitivity of the feature to the effect. The conclusions on the potential for LSE are presented in **Table 15** to **Table 18**, on a site by site basis.

7.1.1.2 The assessment of potential LSE is made based on three clear parameters, as defined in **Table 5**. The presence or absence of a pathway is based on the scope and nature of the proposed Compensation Measure activities together with the location of the designated feature, with the sensitivity of the feature(s) drawing on the relevant information available for the designated sites (provided in **Appendix B**).

Table 15: Screening based on potential LSE from Predator Eradication in the Isles of Scilly AoS (D1).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Isles of Scilly Complex SAC, Ramsar	Annex II habitats	• Shore dock • Grey seal	• N/A	• Habitat disturbance and/or loss due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work. • Potential impacts could occur to grey seal via consumption of dead poisoned targeted predators or direct ingestion of poison.	• N/A	C	**Potential for LSE**

Table 16: Screening based on potential LSE from Predator Eradication at Rathlin Island AoS (D2).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
North Antrim Coast SAC	Terrestrial habitats	• High sea cliffs with a range of dune and grassland communities	• N/A	• Habitat disturbance and/or loss due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work.	• N/A	C	**Potential for LSE**
Rathlin Island SAC and SPA	Terrestrial habitats	• High sea cliffs with a range of	• N/A	• Habitat disturbance and/or loss due to increased human activity due to implementation of	• N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
	Annex I Species	saltmarsh and maritime grassland communities • Peregrine falcon and Chough		eradication programme e.g. regular setting of baits or traps and monitoring work. • *Impacts to non-target predator species (i.e. species not known to be detrimental to guillemots and/or razorbills). Potential impacts could occur via consumption of dead poisoned targeted predators or direct ingestion of poison.*			
Sheep Island SPA	Onshore ornithology	• Supports a nationally important breeding population of cormorant	• N/A	• Impacts to non-target predator species (i.e. species not known to be detrimental to guillemots and/or razorbills). Potential impacts could occur via consumption of dead poisoned targeted predators or direct ingestion of poison. • Habitat disturbance due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work.	• N/A	C	**Potential for LSE**

Table 17: Screening based on potential LSE from Predator Eradication at Torquay AoS (D3).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
No relevant designated sites identified with qualifying features related to onshore ecology and nature conservation							

Table 18: Screening based on potential LSE from Predator Eradication at Guernsey and Alderney AoS (D4).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Gouliot Caves and Headland Ramsar	Terrestrial habitats and fauna	• Wetlands, coastal grasslands and rocky shores supporting a wide variety of invertebrates	• N/A	• Impacts to non-target predator species (i.e. species not known to be detrimental to guillemots and/or razorbills). Potential impacts could occur via consumption of dead poisoned targeted predators or direct ingestion of poison. • Habitat disturbance and/or loss due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work.	• N/A	C	**Potential for LSE**
Herm, Jethou and The Humps Ramsar	Onshore ornithology	• Habitats supporting nine species	• N/A	• Impacts to non-target predator species (i.e. species not known to be detrimental to guillemots and/or razorbills). Potential impacts could	• N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
		of breeding seabirds		occur via consumption of dead poisoned targeted predators or direct ingestion of poison. • Habitat disturbance and/or loss due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work.			

7.2 Assessment of Adverse Effect Alone – Information to Inform Appropriate Assessment (Predator Eradication)

7.2.1.1 Where potential for LSE on a European site(s) has been identified, there is a requirement to consider whether that potential effect(s) will adversely affect the integrity of the site in view of its conservation objectives (**Figure 20**). The potential for LSE for the predator eradication Compensation Measure is presented in **Table 15** to **Table 18**. Potential for LSE applies where a feature is known to be sensitive to the effect and a potential pathway cannot be discounted.

7.2.1.2 The approach taken to HRA for the Compensation Measures is summarised in **Figure 21**. Where the screening conclusion is that there is a potential LSE, the primary measure applied to avoid an AEoI is mitigation. For Hornsea Four, these measures are identified in **Volume A4, Annex 5.2: Commitments Register**), with the commitments relevant to onshore compensation measures provided in **Table 13** for ease of reference. It should be noted, however, that ultimately, the Compensation Measures will not be consented through the Hornsea Four DCO application process and will be subject to (where necessary) standalone EIA and HRA processes as part of their own consenting process (for example a Marine Licence application and/or Planning Application). As part of that consenting process, further assessment work will be undertaken, based on refined design and methodology details.

7.2.1.3 The information to inform the AA for the predator eradication Compensation Measure is presented in **Table 19**; the table details all designated sites, features and effects for which a potential for LSE has been identified, proposes appropriate Commitments (mitigation) that could be applied to avoid or reduce the impacts, and provides conclusions on whether there is potential for AEoI after the application of these Commitments for the project alone. Consideration to AEoI in-combination is made in **Section 9**.

Table 19: Assessment of AEoI Alone for Predator Eradication.

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
D1: Isles of Scilly	Isles of Scilly Complex SAC	Shore duck				Habitat disturbance due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work.	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice and to consider the timing of the eradication programme, the magnitude of impact on Shore duck would be limited in extent and duration and therefore **no potential for AEoI**.
		Grey seal	✗	✓	✗	Potential impacts could occur to grey seal via consumption of dead poisoned targeted predators or direct ingestion of poison.		It is standard practice for poisoned bait to be placed securely within a specialised 'box' that only the target species can enter via a small opening. Further to this, there is overwhelming evidence that grey seal feed predominately on fish and therefore ingestion of a rat carcass would be highly unlikely. On this basis it is reasonable to conclude **no potential for AEoI** in relation to grey seal.
D2: Rathlin Island	Sheep Island SPA	Supports a nationally important breeding population of cormorant	✗	✓	✗	Impacts to non-target predator species (i.e. species not known to be detrimental to guillemots and/or razorbills). Potential impacts could occur via consumption of dead poisoned targeted predators or direct ingestion of poison.	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice and to consider the timing of the eradication programme, the magnitude of impact on cormorant would be limited in extent and duration. Therefore, **no potential for AEoI**.
			✗	✓	✗	Habitat disturbance due to increased human activity due to implementation of eradication	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						programme e.g. regular setting of baits or traps and monitoring work.		and to consider the timing of the eradication programme the magnitude of impact on habitats that supports cormorant would be limited in extent and duration. Therefore, **no potential for AEoI**.
	North Antrim Coast SAC	High sea cliffs with a range of dune and grassland communities	✘	✓	✘	Habitat disturbance due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work.	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice and to consider the timing of the eradication programme the magnitude of impact on dune and grassland habitats would be limited in extent and duration. Furthermore, effects on high sea cliffs are even less likely given their difficult or inaccessible nature. Therefore, **no potential for AEoI**.
	Rathlin Island SAC and SPA	High sea cliffs with a range of saltmarsh and maritime grassland communities	✘	✓	✘	Habitat disturbance due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work.	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice and to consider the timing of the eradication programme the magnitude of impact on saltmarsh and maritime grassland habitats would be limited in extent and duration. Furthermore, effects on high sea cliffs are even less likely given their difficult or inaccessible nature Therefore **no potential for AEoI**.
		Annex I species Peregrine falcon and Chough	✘	✓	✘	Impacts to non-target predator species (i.e. species not known to be detrimental to guillemots and/or razorbills). Potential impacts could occur via	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice and to consider the timing of the eradication programme, the magnitude of impact on

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
						consumption of dead poisoned targeted predators or direct ingestion of poison.		Peregrine falcon and Chough would be limited in extent and duration. Therefore, **no potential for AEoI**
D3: Torbay	No relevant designated sites identified with qualifying features related to onshore ecology and nature conservation.							
D4: Guernsey and Alderney	Gouliot Caves and Headland Ramsar	Wetlands, coastal grasslands and rocky shores supporting a wide variety of invertebrates	✗	✓	✗	Impacts to non-target predator species (i.e. species not known to be detrimental to guillemots and/or razorbills). Potential impacts could occur via consumption of dead poisoned targeted predators or direct ingestion of poison.	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice and to consider the timing of the eradication programme the magnitude of impact on non-target species would be limited in extent and duration. Therefore **no potential for AEoI**.
			✗	✓	✗	Habitat disturbance due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work.	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice and to consider the timing of the eradication programme the magnitude of impact on wetland, coastal grassland and rocky shore habitats would be limited in extent and duration. Therefore **no potential for AEoI**.
	Herm, Jethou and The Humps Ramsar	Habitats supporting nine species of breeding seabirds	✗	✓	✗	Impacts to non-target predator species (i.e. species not known to be detrimental to guillemots and/or razorbills). Potential impacts could occur via consumption of dead poisoned targeted predators or direct ingestion of poison.	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice and to consider the timing of the eradication programme the magnitude of impact on species of breeding seabird species would be limited in extent and duration. Therefore, **no potential for AEoI**.

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✓	✗	Habitat disturbance due to increased human activity due to implementation of eradication programme e.g. regular setting of baits or traps and monitoring work.	CoC-ON-41 CoC-ON-1	As a result of the implementation of commitments (CoC-ON-1 and CoC-ON-41) to minimise disturbance in line with good practice and to consider the timing of the eradication programme the magnitude of impact on habitats supporting breeding seabirds would be limited in extent and duration. Therefore, **no potential for AEoI**.

8 Habitats Regulations Assessment – Resilience Measure – Fish Habitat Enhancement (Seagrass)

8.1 Assessment of the Potential for LSE - Resilience Measure – Fish Habitat Enhancement (Seagrass)

8.1.1.1 Screening for potential LSE considers the effects that may result during installation/ construction, implementation/ operation/ maintenance and decommissioning of the fish habitat enhancement (seagrass) Compensation Measure, as defined in **Section 2.3.2,** in relation to the designated sites identified in **Section 2.3.3**. This section combines that information to determine the potential LSE for the project alone. Key to the potential for LSE are the clear presence or absence of a pathway, linking the effect to a designated site or feature, together with known sensitivity of the feature to the effect. The conclusions on the potential for LSE are presented in **Table 20** to **Table 26**, on a site-by-site basis.

8.1.1.2 It is assumed that any onshore access to the area chosen for fish habitat enhancement will be through existing highways and/or footpaths. It is considered that no new access roads will be required and that no construction is required as part of the measure. Any requirement for vehicle movements during site suitability surveys, the restoration process or subsequent monitoring are considered to be negligible. Therefore, onshore impacts have been scoped out of the assessment.

8.1.1.3 The assessment of potential LSE is made based on three clear parameters, as defined in **Table 5**. The presence or absence of a pathway is based on the scope and nature of the proposed Compensation Measure activities together with the location of the designated feature, with the sensitivity of the feature(s) drawing on the relevant information available for the designated sites (provided in **Appendix B**).

Table 20: Screening based on potential LSE from Fish Habitat Enhancement (Seagrass) at Rathlin Island AoS (E1).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation/Maintenance	Decommissioning		
Rathlin Island SAC	Annex I habitats (designated benthic habitats) as primary features and as qualifying features	• Reefs; • Submerged or partially submerged sea caves; • Sandbanks which are slightly covered by seawater all the time	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
		• Annual vegetation of drift lines; and • Vegetated sea cliffs of the Atlantic and Baltic Coasts.	• Accidental pollution; • Temporary habitat disturbance from planting activities and seabed sampling; and • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	• Accidental pollution; and • Change of habitat type following introduction or reinstatement of seagrass.	N/A	A	No potential for LSE
Rathlin Island SPA	Offshore and Intertidal Ornithology	• A200 *Alca torda*; • A103 *Falco peregrinus*; • A188 *Rissa tridactyla*; • A199 *Uria aalge*; and • Seabird assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**

Table 21: Screening based on potential LSE from Fish Habitat Enhancement (Seagrass) at Isles of Scilly AoS (E2).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
Isles of Scilly Ramsar	Offshore and Intertidal Ornithology	• A183 *Larus fuscus*	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Isles of Scilly SAC	Annex I habitats (designated benthic habitats)	• Sandbanks which are slightly covered by seawater all the time; • Mudflats and sandflats not covered by seawater at low tide; and • Reefs.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and • Accidental pollution	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Annex II species as a qualifying feature (marine mammals)	• Grey Seal (*Halichoerus grypus*)	• Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution.	• Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution.	N/A	C	**Potential for LSE**

Table 22: Screening based on potential LSE from Fish Habitat Enhancement (Seagrass) at Celtic Sea AoS (E3).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
Bristol Channel Approaches / Dynesfeydd Môr Hafren SAC	Annex II species for primary selection (marine mammals)	• Harbour porpoise (*Phocoena phocoena*)	• Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution	• Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution/	N/A	C	**Potential for LSE**
Limestone Coast of South West Wales/ Arfordir Calchfaen de Orllewin Cymru SAC	Annex I habitats (designated benthic habitats) as primary features and as qualifying features	• Vegetated sea cliffs of the Atlantic and Baltic Coasts; • Fixed coastal dunes with herbaceous vegetation (""grey dunes""); • European dry heaths; • Semi-natural dry grasslands; • scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites); and • Caves not open to the public.	• Accidental pollution; • Temporary habitat disturbance from planting activities and seabed sampling; and • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	• Accidental pollution; and • Change of habitat type following introduction or reinstatement of seagrass/	N/A	A	No potential for LSE
		• Submerged or partially submerged sea caves.	• Accidental pollution; • Temporary habitat disturbance from planting activities and seabed sampling; and • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	• Accidental pollution; and • Change of habitat type following introduction or reinstatement of seagrass.	N/A	C	**Potential for LSE**
Pembrokeshire Marine/ Sir Benfro Forol SAC	Annex I habitats (designated benthic habitats) as primary features and as qualifying features	• Estuaries; • Large shallow inlets and bays; • Reefs; • Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; • Coastal lagoons (* Priority feature); • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); and • Submerged or partially submerged sea caves.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution	N/A	C	**Potential for LSE**
	Annex II species for primary selection (migratory fish species)	• Sea lamprey (*Petromyzon marinus*); • River lamprey (*Lampetra fluviatilis*); • Allis shad (*Alosa alsoa*); and • Twaite shad (*Alosa fallax*).	• Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; • Temporary habitat disturbance from planting activities and seabed sampling; and • Accidental pollution.	• Accidental pollution.	N/A	C	**Potential for LSE**
	Annex II species for primary selection (marine mammals)	• Grey seal (*Halichoerus grypus*)	• Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals; and	• Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals; and	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
			• Accidental pollution.	• Accidental pollution.			
West Wales Marine / Gorllewin Cymru Forol SAC	Annex II species for primary selection (marine mammals)	• Harbour porpoise (*Phocoena phocoena*)	• Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution.	• Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution.	N/A	C	**Potential for LSE**
Grassholm SPA	Offshore and Intertidal Ornithology	• A016 *Morus bassanus*	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Skomer, Skokholm and the Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro SPA	Offshore and Intertidal Ornithology	• A222 *Asio flammeus*; • A204 *Fratercula arctica*; • A014 *Hydrobates pelagicus*; • A183 *Larus fuscus*; • A013 *Puffinus puffinus*; • A346 *Pyrrhocorax pyrrhocorax*; and • Seabird assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**

Table 23: Screening based on potential LSE from Fish Habitat Enhancement (Seagrass) at Plymouth Sound to Helford River AoS (E4).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
Fal and Helford SAC	Annex I habitats (designated benthic habitats) as primary features and as qualifying features	• Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; • Large shallow inlets and bays, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); • Estuaries; and • Reefs.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
Plymouth Sound and Estuaries SAC	Annex I habitats (designated benthic habitats)	• Sandbanks which are slightly covered by sea water all the time; • Estuaries; • Large shallow inlets and bays; • Reefs; • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); and • Mudflats and sandflats not covered by seawater at low tide.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Annex II species for primary selection	• Allis Shad (*Alosa alosa*)	• Increases in suspended sediment concentrations and deposition of disturbed sediments to the	• Accidental pollution.	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
	(migratory fish species)		seabed due to planting activities and seabed sampling; • Temporary habitat disturbance from planting activities and seabed sampling; and • Accidental pollution.				
Polruan to Polperro SAC	Annex I habitats (designated benthic habitats)	• Vegetated sea cliffs of the Atlantic and Baltic Coasts	• Accidental pollution; and • Temporary habitat disturbance from planting activities and seabed sampling; and • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	• Accidental pollution; and • Change of habitat type following introduction or reinstatement of seagrass.	N/A	A	No potential for LSE
Start Point to Plymouth Sound & Eddystone SAC	Annex I habitats (designated benthic habitats)	• Reefs	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
Falmouth Bay to St. Austell Bay SPA	Offshore and Intertidal Ornithology	• A002 *Gavia arctica*; • A003 *Gavia immer*; and • A007 *Podiceps auratus*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Tamar Estuaries Complex SPA	Offshore and Intertidal Ornithology	• A026 *Egretta garzetta*; and • A132 *Recurvirostra avosetta*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**

Table 24: Screening based on potential LSE from Fish Habitat Enhancement (Seagrass) at the Solent AoS (E5).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
Chichester and Langstone Harbours Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 1: Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter:76480 waterfowl (5 year peak mean 1998/99-2002/2003); and	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
		• Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Ringed plover , *Charadrius hiaticula*, Black-tailed godwit , *Limosa limosa islandica*, and Common redshank , *Tringa totanus totanus*. Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*, Common shelduck , *Tadorna tadorna*, Grey plover , *Pluvialis squatarola*, and Dunlin , *Calidris alpina alpina*. Species/populations identified subsequent to designation for possible future consideration under criterion 6: Species regularly supported during the breeding season: Little tern , *Sterna albifrons albifrons*.	disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.			
Portsmouth Harbour Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 3: The intertidal mudflat areas possess extensive beds of eelgrass *Zostera angustifolia* and *Zostera noltei* which support the grazing dark-bellied brent geese populations. The mud-snail *Hydrobia ulvae* is found at extremely high densities, which helps to support the wading bird interest of the site. Common cord-grass *Spartina anglica* dominates large areas of the saltmarsh and there are also extensive areas of green algae *Enteromorpha* spp. and sea lettuce *Ulva lactuca*. More locally the saltmarsh is dominated by sea purslane *Halimione portulacoides* which gradates to more varied communities at the higher shore levels. The site also includes a number of saline lagoons hosting nationally important species.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Offshore and Intertidal Ornithology	• Ramsar criterion 6: Species/populations occurring at levels of international importance; and • Qualifying Species/populations (as identified at designation): Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Solent & Southampton Water Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 1: The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs; and	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
		• Ramsar criterion 2: The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site. The higher plants *Orobanche purpurea* and Spartina maritima are considered vulnerable and endangered, respectively, in the GB Red Book. The Mediterranean gull *(Larus melanocephalus*) is included in CITES Appendix I.					
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance. Species with peak counts in winter: 51,343 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation), Species with peak counts in winter: Black-tailed godwit , *Limosa limosa islandica*, Dark-bellied brent goose, *Branta bernicla bernicla*, and Eurasian teal , *Anas crecca*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Solent and Isle of Wight Lagoons Ramsar	Annex I habitats (designated benthic habitats)	• Coastal lagoons.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	A	No potential for LSE
Solent Maritime SAC	Annex I habitats (designated benthic habitats)	• Estuaries; • Spartina swards *Spartinion maritimae*; • Atlantic salt meadows *Glauco-Puccinellietalia maritimae*; • Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; and • Salicornia and other annuals colonizing mud and sand.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
		• Coastal lagoons (*Priority feature);and • Annual vegetation of drift lines.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	A	No potential for LSE

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
South Wight Maritime SAC	Annex I habitats (designated benthic habitats)	• Reefs, and Submerged or partially submerged sea caves	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental Pollution	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
		• Vegetated sea cliffs of the Atlantic and Baltic Coasts	• Accidental pollution; • Temporary habitat disturbance from planting activities and seabed sampling; and • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	• Accidental pollution and • Change of habitat type following introduction or reinstatement of seagrass.	N/A	A	No potential for LSE
Chichester and Langstone Harbours SPA	Offshore and Intertidal Ornithology	• A054 *Anas acuta*; • A056 *Anas clypeata*; • A052 *Anas crecca*; • A050 *Anas penelope*; • A169 *Arenaria interpres*; • A675 *Branta bernicla bernicla*; • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A137 *Charadrius hiaticula*; • A157 *Limosa lapponica*; • A069 *Mergus serrator*; • A160 *Numenius arquata*; • A141 *Pluvialis squatarola*; • A195 *Sterna albifrons*; • B A193 *Sterna hirundo*; • A191 *Sterna sandvicensis*; • A048 *Tadorna tadorna*; • A162 *Tringa totanus*; and • Waterfowl assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Portsmouth Harbour SPA	Offshore and Intertidal Ornithology	• A675 *Branta bernicla bernicla*; • A672 *Calidris alpina alpina*; • A616 *Limosa limosa islandica*; and • A069 *Mergus serrator*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Solent & Southampton Water SPA	Offshore and Intertidal Ornithology	• A052 *Anas crecca*; • A675 *Branta bernicla bernicla*; • A137 *Charadrius hiaticula*;	• The impact of planting activities such as increased vessel activity or planting in intertidal area on	• The impact of monitoring activities such as increased vessel activity or monitoring of	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
		• A176 *Larus melanocephalus*; • A616 *Limosa limosa islandica*; • A195 *Sterna albifrons*; • A192 *Sterna dougallii*; • A193 *Sterna hirundo*; • A191 *Sterna sandvicensis*; and • Waterfowl assemblage	foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.			

Table 25: Screening based on potential LSE from Fish Habitat Enhancement (Seagrass) at Essex Estuaries AoS (E6).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
Benfleet and Southend Marshes Ramsar	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter 32867 waterfowl (5 year peak mean 1998/99-2002/2003).; and • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Dark-bellied brent goose, *Branta bernicla bernicla*. Species with peak counts in winter: Grey plover , *Pluvialis squatarola*, and Red knot , *Calidris canutus islandica*,. Species/populations identified subsequent to designation for possible future consideration under criterion 6: Species with peak counts in winter: Dunlin , *Calidris alpina alpina*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Blackwater Estuary (Mid-Essex Coast Phase 4) Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 1: Qualifies by virtue of the extent and diversity of saltmarsh habitat present. This site, and the four others in the Mid-Essex Coast complex, includes a total of 3,237 ha that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain; and • Ramsar criterion 3: This site supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
		• Ramsar criterion 2: The invertebrate fauna is well represented and includes at least 16 British Red Data Book species. In descending order of rarity these are: Endangered: a water beetle *Paracymus aeneus*; Vulnerable: a damselfly *Lestes dryas*, the flies *Aedes flavescens*, *Erioptera bivittata*, *Hybomitra expollicata* and the spiders *Heliophanus auratus* and *Trichopterna cito*; Rare: the beetles *Baris scolopacea*, *Philonthus punctus*, *Graptodytes bilineatus* and *Malachius vulneratus*, the flies *Campsicemus magius* and *Myopites eximia*, the moths Idaea *ochrata* and *Malacosoma castrensis* and the spider *Euophrys*.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	A	No potential for LSE
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Species with peak counts in winter: 105061 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: species/populations occurring at levels of international importance. Species with peak counts in winter:	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
		Dark-bellied brent goose, *Branta bernicla bernicla*, Grey plover , *Pluvialis squatarola*, Dunlin , Calidris *alpina alpina*, and ,Black-tailed godwit , *Limosa limosa islandica*, Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in winter: Common shelduck , *Tadorna tadorna*, European golden plover , *Pluvialis apricaria apricaria*, and Common redshank , *Tringa totanus totanus*.	• displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• displacement from important foraging and habitat areas of birds; and • Accidental pollution.			
Crouch & Roach Estuaries (Mid-Essex Coast Phase 3) Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 2: Supports an appreciable assemblage of rare, vulnerable or endangered species or subspecies of plant and animal including 13 nationally scarce plant species: slender hare's ear *Bupleurum tenuissimum*, divided sedge *Carex divisa*, sea barley *Hordeum marinum*, golden-samphire *Inula crithmoides*, laxflowered sea-lavender *Limonium humile*, curved hard-grass *Parapholis incurva*, Borrer's saltmarsh grass *Puccinellia fasciculata*, stiff saltmarsh grass *Puccinellia rupestris*, spiral tasselweed *Ruppia cirrhosa*, one-flowered glasswort *Salicornia pusilla*, small cord-grass *Spartina maritima*, shrubby seablite *Suaeda* vera and sea clover *Trifolium squamosum*. Several important invertebrate species are also present on the site, including scarce emerald damselfly *Lestes dryas*, the shorefly *Parydroptera discomyzina*, the rare soldier fly *Stratiomys singularior*, the large horsefly *Hybomitra expollicata*, the beetles *Graptodytes bilineatus* and *Malachius vulneratus*, the ground lackey moth *Malacosoma castrensis* and *Eucosoma catoprana*.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 16970 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Dengie (Mid-Essex Coast Phase 1) Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 1: Qualifies by virtue of the extent and diversity of saltmarsh habitat present. Dengie, and the four other sites in the Mid-Essex Coast Ramsar site complex, includes a total of 3,237 ha, that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain; • Ramsar criterion 2: Dengie supports a number of rare plant and animal species. The Dengie has 11 species of nationally scarce plants: sea kale *Crambe maritima*, sea barley *Hordeum marinum*, golden samphire *Inula crithmoides*, lax flowered sea lavender *Limonium humile*, the glassworts *Sarcocornia perennis* and *Salicornia pusilla*, small cord-grass *Spartina maritima*, shrubby sea-blite *Suaeda vera*, and the eelgrasses *Zostera angustifolia*, *Z. marina* and *Z. noltei*. The invertebrate fauna	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
		includes the following Red Data Book species: a weevil *Baris scolopacea*, a horsefly *Atylotus latistriatus* and a jumping spider *Euophrys browning*; and • Ramsar criterion 3: This site supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.					
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter 43828 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*, Grey plover , *Pluvialis squatarola*, and Red knot , *Calidris canutus islandica*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in winter: Bar-tailed godwit , *Limosa lapponica lapponica*,.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Foulness (Mid-Essex Coast Phase 5) Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 1: This site qualifies by virtue of the extent and diversity of saltmarsh habitat present. This and four other sites in the Mid-Essex Coast Ramsar site complex, include a total of 3,237 ha, that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain; and • Ramsar criterion 3: The site contains extensive saltmarsh habitat, with areas supporting full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
		• Ramsar criterion 2: The site supports a number of nationally-rare and nationally-scarce plant species, and British Red Data Book invertebrates.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	A	No potential for LSE
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 82148 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank , *Tringa totanus totanus*. Species with peak counts in winter Dark-bellied brent goose, *Branta bernicla bernicla* Eurasian oystercatcher , *Haematopus ostralegus ostralegus*, Grey plover , *Pluvialis squatarola*, Red knot , *Calidris canutus islandica* and Bar-tailed godwit , *Limosa lapponica lapponica*,.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
Medway Estuary & Marshes Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 2: The site supports a number of species of rare plants and animals. The site holds several nationally scarce plants, including sea barley *Hordeum marinum*, curved hard-grass *Parapholis incurva*, annual beard-grass *Polypogon monspeliensis*, Borrer's saltmarsh-grass *Puccinellia fasciculata*, slender hare`s-ear *Bupleurum tenuissimum*, sea clover *Trifolium squamosum*, saltmarsh goose-foot *Chenopodium chenopodioides*, golden samphire *Inula crithmoides*, perennial glasswort *Sarcocornia perennis* and one-flowered glasswort *Salicornia pusilla*. A total of at least twelve British Red Data Book species of wetland invertebrates have been recorded on the site. These include a ground beetle *Polistichus connexus*, a fly *Cephalops perspicuus*, a dancefly *Poecilobothrus ducalis*, a fly *Anagnota collini*, a weevil *Baris scolopacea*, a water beetle *Berosus spinosus*, a beetle *Malachius vulneratus*, a rove beetle *Philonthus* punctus, the ground lackey moth *Malacosoma castrensis*, a *horsefly* Atylotus *latistriatuus*, a fly *Campsicnemus magius*, a solider beetle, *Cantharis fusca*, and a cranefly *Limonia danica*. A significant number of non-wetland British Red Data Book species also occur.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 47637 waterfowl (5 year peak mean 1998/99-2002/2003) • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Grey plover , *Pluvialis squatarola*, Common redshank , *Tringa totanus totanus*. Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*, Common shelduck , *Tadorna tadorna*, Northern pintail , *Anas acuta*, Ringed plover , *Charadrius hiaticula*: Red knot , *Calidris canutus islandica*, and Dunlin , *Calidris alpina alpina*. Species/populations identified subsequent to designation for possible future consideration under criterion 6: Species with peak counts in spring/autumn: Black-tailed godwit , *Limosa limosa islandica*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Thames Estuary & Marshes Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 2: The site supports more than 20 British Red Data Book invertebrates and populations of the GB Red Book endangered least lettuce (*Lactuca saligna*), as well as the vulnerable slender hare's-ear (*Bupleurum tenuissimum*), divided sedge (*Carex divisa*), sea barley (*Hordeum marinum*), Borrer's saltmarsh-grass (*Puccinellia fasciculata*), and dwarf eelgrass (*Zostera noltei*).	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 45,118 waterfowl (5 year peak mean 1998/99-2002/2003); and	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
		• Ramsar criterion 6: Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Black-tailed godwit , *Limosa limosa islandica*. Species with peak counts in winter: Dunlin , *Calidris alpina alpina*, and Red knot , *Calidris canutus islandica*.	may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.			
Thanet Coast & Sandwich Bay Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 2: Supports 15 British Red Data Book wetland invertebrates.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	A	No potential for LSE
	Offshore and Intertidal Ornithology	• Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in winter: Ruddy turnstone , *Arenaria interpres interpres*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
The Swale Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 2:The site supports nationally scarce plants and at least seven red data book invertebrates. The site supports the GB Red Book vulnerable plants *Bupleurum tenuissimum*, *Carex divisa* and *Hordeum marinum*, as well as the endangered *Spartina maritima*.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 77,501 waterfowl (5 year peak mean 1998/99-2002/2003).; and • Ramsar criterion 6: Species/populations occurring at levels of international importance. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Ringed plover , *Charadrius hiaticula*. Species with peak counts in winter: Black-tailed godwit , *Limosa limosa islandica*, Eurasian wigeon , *Anas penelope*, Northern pintail , *Anas acuta*, and Northern shoveler , *Anas clypeata*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Essex Estuaries SAC	Annex I habitats (designated benthic habitats) as primary features and as qualifying features	• Estuaries; • Mudflats and sandflats not covered by seawater at low tide; • Salicornia and other annuals colonizing mud and sand; • Spartina swards (*Spartinion maritimae*); • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); and	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
		• Sandbanks which are slightly covered by sea water all the time.	disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.				
Margate and Long Sands SAC	Annex I habitats (designated benthic habitats)	• Sandbanks which are slightly covered by sea water all the time.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
Thanet Coast SAC	Annex I habitats (designated benthic habitats)	• Reefs; and • Submerged or partially submerged sea caves.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
Benfleet and Southend Marshes SPA	Offshore and Intertidal Ornithology	• A675 *Branta bernicla bernicla*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A137 *Charadrius hiaticula*; • A141 *Pluvialis squatarola*; and • Waterfowl assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA	Offshore and Intertidal Ornithology	• A059 *Aythya ferina*; • A675 *Branta bernicla bernicla*; • A672 *Calidris alpina alpina*; • A137 *Charadrius hiaticula*; • A137 *Charadrius hiaticula*; • A082 *Circus cyaneus*; • A616 *Limosa limosa islandica*; • A141 *Pluvialis squatarola*; • A195 *Sterna albifrons*; and • Waterfowl assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA	Offshore and Intertidal Ornithology	• A675 *Branta bernicla bernicla*; and • Waterbird assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
Dengie (Mid-Essex Coast Phase 1) SPA	Offshore and Intertidal Ornithology	• A675 *Branta bernicla bernicla*; • A143 *Calidris canutus*; • A082 *Circus cyaneus*; • A141 *Pluvialis squatarola*; and • Waterfowl assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Foulness (Mid-Essex Coast Phase 5) SPA	Offshore and Intertidal Ornithology	• A675 *Branta bernicla bernicla*; • A143 *Calidris canutus*; • A137 *Charadrius hiaticula*; • A082 *Circus cyaneus*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A141 *Pluvialis squatarola*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; • A191 *Sterna sandvicensis*; • A162 *Tringa totanus*; and • Waterfowl assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Medway Estuary and Marshes SPA	Offshore and Intertidal Ornithology	• A054 *Anas acuta*; • A056 *Anas clypeata*; • A052 *Anas crecca*; • A050 *Anas penelope*; • A053 *Anas platyrhynchos*; • A169 *Arenaria interpres*; • A059 *Aythya ferina*; • A675 *Branta bernicla bernicla*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A137 *Charadrius hiaticula*; • A082 *Circus cyaneus*; • A037 *Cygnus columbianus bewickii*; • A098 *Falco columbarius*; • A001 *Gavia stellata*; • A130 *Haematopus ostralegus*; • A616 *Limosa limosa islandica*; • A160 *Numenius arquata*; • A017 *Phalacrocorax carbo*; • A141 *Pluvialis squatarola*; • A005 *Podiceps cristatus*; • A132 *Recurvirostra avosetta*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons* ; • A193 *Sterna hirundo*; • A048 *Tadorna tadorna*; • A164 *Tringa nebularia*; and	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
		• A162 *Tringa totanus*.					
Outer Thames Estuary SPA	Offshore and Intertidal Ornithology	• A001 *Gavia stellata*; • A195 *Sterna albifrons*; and • A193 *Sterna hirundo*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Thames Estuary and Marshes SPA	Offshore and Intertidal Ornithology	• A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A137 *Charadrius hiaticula*; • A082 *Circus cyaneus*; • A616 *Limosa limosa islandica*; • A141 *Pluvialis squatarola*; • A132 *Recurvirostra avosetta*; • A162 *Tringa totanus*; and • Waterfowl assesmblage	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Thanet Coast and Sandwich Bay SPA	Offshore and Intertidal *Ornithology*	• A169 *Arenaria interpres*; • A140 *Pluvialis apricaria*; and • A195 *Sterna albifrons*.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
The Swale SPA	Offshore and Intertidal Ornithology	• A052 *Anas crecca*; • A051 *Anas strepera*; • A675 *Branta bernicla bernicla*; • A672 *Calidris alpina alpina*; • A137 *Charadrius hiaticula*; • A130 *Haematopus ostralegus*; • A160 *Numenius arquata*; • A141 *Pluvialis squatarola*; • A162 *Tringa totanus*; • Breeding bird assemblage; and • Waterfowl assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**

Table 26: Screening based on potential LSE from Fish Habitat Enhancement (Seagrass) at the Humber Estuary AoS (E7).

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
Humber Estuary Ramsar	Annex I habitats (designated benthic habitats)	• Ramsar criterion 1:The site is a representative example of a near-natural estuary with the following component habitats: dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes, and coastal brackish/saline lagoons.	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
			• Accidental pollution.				
	Annex II species for primary selection (marine mammals)	• Ramsar criterion 3: The Humber Estuary Ramsar site supports a breeding colony of grey seals *Halichoerus grypus* at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast.	• Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution.	• Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Annex II species for primary selection (migratory fish species)	• Ramsar criterion 8: The Humber Estuary acts as an important migration route for both river lamprey (*Lampetra fluviatilis*) and sea lamprey (Petromyzon marinus) between coastal waters and their spawning areas.	• Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; • Temporary habitat disturbance from planting activities and seabed sampling; and • Accidental pollution.	• Accidental pollution.	N/A	C	**Potential for LSE**
	Offshore and Intertidal Ornithology	• Ramsar criterion 5: Assemblages of international importance: 153,934 waterfowl, non-breeding season (5 year peak mean 1996/97-2000/2001); and • Ramsar criterion 6: species/populations occurring at levels of international importance: Common shelduck, *Tadorna tadorna*, Eurasian golden plover, *Pluvialis apricaria, altifrons*, Red knot, *Calidris canutus islandica*, Dunlin, *Calidris alpina alpina*, Black-tailed godwit, *Limosa limosa islandica*, Bar-tailed godwit , *Limosa lapponica lapponica*, and Common redshank, *Tringa totanus.*	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**
Humber Estuary SAC	Annex I habitats (designated benthic habitats)	• Estuaries; • Mudflats and sandflats not covered by seawater at low tide; • Sandbanks which are slightly covered by sea water all the time; • Coastal lagoons (*Priority feature); • Salicornia and other annuals colonizing mud and sand and; • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*).	• Temporary habitat disturbance from planting activities and seabed sampling; • Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; and. • Accidental pollution.	• Change of habitat type following introduction or reinstatement of seagrass; and • Accidental pollution.	N/A	C	**Potential for LSE**
	Annex II species for primary selection (migratory fish species)	• Sea lamprey, *Petromyzon marinus;* • River lamprey, *Lampetra fluviatilis;* and • Grey seal, *Halichoerus grypus.*	• Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling; • Temporary habitat disturbance from planting activities and seabed sampling; and • Accidental pollution.	• Accidental pollution.	N/A	C	**Potential for LSE**
Greater Wash SPA	Offshore and Intertidal Ornithology	• A001 *Gavia stellata*; • A177 *Larus minutus*; • A065 *Melanitta nigra*; • A195 *Sterna albifrons*; • A193 *Sterna hirundo*; and	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from	N/A	C	**Potential for LSE**

Designated Site	Receptor Types	Features Identified for Screening	Relevant effect(s)			Consideration of Potential LSE	Conclusion of Potential LSE
			Installation/Construction	Implementation/Operation	Decommissioning		
		• A191 *Sterna sandvicensis*.	• Accidental pollution.	important foraging and habitat areas of birds; and • Accidental pollution.			
Humber Estuary SPA	Offshore and Intertidal Ornithology	• A052 *Anas crecca*; • A050 *Anas penelope*; • A053 *Anas platyrhynchos*; • A169 *Arenaria interpres*; • A059 *Aythya ferina*; • A062 *Aythya marila*; • A021 *Botaurus stellaris*; • A675 *Branta bernicla bernicla*; • A067 *Bucephala clangula*; • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A143 *Calidris canutus*; • A137 *Charadrius hiaticula*; • A137 *Charadrius hiaticula*; • A081 *Circus aeruginosus*; • A082 *Circus cyaneus*; • A130 *Haematopus ostralegus*; • A157 *Limosa lapponica*; • A616 *Limosa limosa islandica*; • A160 *Numenius arquata*; • A158 *Numenius phaeopus*; • A151 *Philomachus pugnax*; • A140 *Pluvialis apricaria*; • A141 *Pluvialis squatarola*; • A132 *Recurvirostra avosetta*; • A195 *Sterna albifrons*; • A048 *Tadorna tadorna*; • A164 *Tringa nebularia*; • A162 *Tringa totanus*; • A142 *Vanellus vanellus*; and • Waterfowl assemblage.	• The impact of planting activities such as increased vessel activity or planting in intertidal area on foot may result in direct disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	• The impact of monitoring activities such as increased vessel activity or monitoring of the intertidal area on foot may result in disturbance or displacement from important foraging and habitat areas of birds; and • Accidental pollution.	N/A	C	**Potential for LSE**

8.2 Assessment of Adverse Effect Alone – Information to Inform Appropriate Assessment (Resilience Measure – Fish Habitat Enhancement (Seagrass))

8.2.1.1 Where potential for LSE on a European site(s) has been identified, there is a requirement to consider whether that potential effect(s) will adversely affect the integrity of the site in view of its conservation objectives (**Figure 20**). The potential for LSE for the resilience measure fish habitat enhancement (seagrass) Compensation Measure is presented in **Table 20** to **Table 26**. Potential for LSE applies where a feature is known to be sensitive to the effect and a potential pathway cannot be discounted.

8.2.1.2 The approach taken to HRA for the Compensation Measures is summarised in **Figure 21**. Where the screening conclusion is that there is a potential LSE, the primary measure applied to avoid an AEoI is mitigation. For Hornsea Four, these measures are identified in **Volume A4, Annex 5.2: Commitments Register**, with the commitments relevant to offshore compensation measures provided in **Table 7** for ease of reference. It should be noted, however, that ultimately, the Compensation Measures will not be consented through the Hornsea Four DCO application process and will be subject to (where necessary) standalone EIA and HRA processes as part of their own consenting process (for example a Marine Licence application and/or Planning Application). As part of that consenting process, further assessment work will be undertaken, based on refined design and methodology details.

8.2.1.3 The information to inform the AA for the resilience measure fish habitat enhancement (seagrass) Compensation Measure is presented in **Table 27**; the table details all designated sites, features and effects for which a potential for LSE has been identified, proposes appropriate Commitments (mitigation) that could be applied to avoid or reduce the impacts, and provides conclusions on whether there is potential for AEoI after the application of these Commitments for the project alone. Consideration to AEoI in-combination is made in **Section 9**.

Table 27: Assessment of AEoI Alone for Fish Habitat Enhancement (Seagrass).

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
E1: Rathlin Island	Rathlin Island SAC	• Reefs; • Submerged or partially submerged sea caves; and • Sandbanks which are slightly covered by seawater all the time	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E1: Rathlin Island	Rathlin Island SPA	• A200 *Alca torda*; • A103 *Falco peregrinus*; • A188 *Rissa tridactyla*; • A199 *Uria aalge*; and • Seabird assemblage	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E2: Isles of Scilly	Isles of Scilly Ramsar	• A183 *Larus Fuscus*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E2: Isles of Scilly	Islces of Scilly SAC	• Sandbanks which are slightly covered by seawater all the time; • Mudflats and sandflats not covered by seawater at low tide; and • Reefs	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		Grey Seal (*Halichoerus grypus*)	✓	✗	✗	Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
E3: Celtic Sea	Bristol Channel Approaches / Dynesfeydd Môr Hafren SAC	• Harbour porpoise (*Phocoena phocoena*)	✓	✗	✗	Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E3: Celtic Sea	Limestone Coast of South West Wales/ Arfordir Calchfaen de Orllewin Cymru	• Submerged or partially submerged sea caves	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E3: Celtic Sea	Pembrokeshire Marine/ Sir Benfro Forol SAC	• Estuaries; • Large shallow inlets and bays; • Reefs; • Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; • Coastal lagoons (* Priority feature); • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); and • Submerged or partially submerged sea caves.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Sea lamprey (*Petromyzon marinus*); • River lamprey (*Lampetra fluviatilis*); • Allis shad (*Alosa alsoa*); and • Twaite shad (*Alosa fallax*).	✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Grey seal (*Halichoerus grypus*)	✓	✗	✗	Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E3: Celtic Sea	West Wales Marine/ Gorllewin Cymru Forol SAC	Harbour porpoise (*Phocoena phocoena*)	✓	✗	✗	Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✗	✓	✗	Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E3: Celtic Sea	Grassholm SPA	A016 *Morus bassanus*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E3: Celtic Sea	Skomer, Skokholm and the Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro SPA	• *A222 Asio flammeus;* • *A204 Fratercula arctica;* • *A014 Hydrobates pelagicus;* • *A183 Larus fuscus;* • *A013 Puffinus puffinus;* • *A346 Pyrrhocorax pyrrhocorax; and* • *Seabird assemblage.*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E4: Helford River	Fal and Helford SAC	• Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; • Large shallow inlets and bays, Atlantic salt meadows *(Glauco-Puccinellietalia maritimae);* • Estuaries; and • Reefs.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E4: Helford River	Plymouth Sound and Estuaries SAC	• Sandbanks which are slightly covered by sea water all the time; • Estuaries; • Large shallow inlets and bays; • Reefs; • Atlantic salt meadows *(Glauco-Puccinellietalia maritimae);* and • Mudflats and sandflats not covered by seawater at low tide.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Allis Shad (*Alosa alosa*)	✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase			Effect	Relevant Commitment	Potential for AEoI
			C	O	D			
			✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI**
E4: Helford River	Start Point to Plymouth Sound & Eddystone SAC	• Reefs	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E4: Helford River	Falmouth Bay to St Austell Bay SPA	• *A002 Gavia arctica;* • *A003 Gavia immer; and* • *A007 Podiceps auratus.*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E4: Helford River	Tamar Estuaries Complex SPA	• A026 *Egretta garzetta*; and • A132 *Recurvirostra avosetta.*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E5: The Solent	Chichester and Langstone Harbours Ramsar	• Ramsar criterion 1: Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter:76480 waterfowl (5 year peak mean 1998/99-2002/2003); and	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		• Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Ringed plover, *Charadrius hiaticula*, Black-tailed godwit , *Limosa limosa islandica*, and Common redshank , *Tringa totanus totanus*. Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*, Common shelduck, *Tadorna tadorna*, Grey plover , *Pluvialis squatarola*, and Dunlin , *Calidris alpina alpina*. Species/populations identified subsequent to designation for possible future consideration under criterion 6: Species regularly supported during the breeding season: Little tern , *Sterna albifrons albifrons*.	✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E5: The Solent	Portsmouth Harbour Ramsar	• Ramsar criterion 3: The intertidal mudflat areas possess extensive beds of eelgrass *Zostera angustifolia* and *Zostera noltei* which support the grazing dark-bellied brent geese populations. The mud-snail *Hydrobia ulvae* is found at extremely high densities, which helps to support the wading bird interest of the site. Common cord-grass *Spartina anglica* dominates large areas of the saltmarsh and there are also extensive areas of green algae *Enteromorpha* spp. and sea lettuce *Ulva lactuca*. More locally the saltmarsh is dominated by sea purslane *Halimione portulacoides* which gradates to more varied communities at the higher shore levels. The site also includes a number of saline lagoons hosting nationally important species.	✓	✖	✖	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✖	✖	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✖	✓	✖	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 6: Species/populations occurring at levels of international importance. • Qualifying Species/populations (as identified at designation): Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*.	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E5: The Solent		• Ramsar criterion 1: The site is one of the few major sheltered channels between a	✓	✖	✖	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
	Solent & Southampton Water Ramsar	substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs. • Ramsar criterion 2: The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site. The higher plants *Orobanche purpurea* and *Spartina maritima* are considered vulnerable and endangered, respectively, in the GB Red Book. The Mediterranean gull (*Larus melanocephalus*) is included in CITES Appendix I.	✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance. Species with peak counts in winter: 51,343 waterfowl (5 year peak mean 1998/99-2002/2003) • Ramsar criterion 6: Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation), Species with peak counts in winter: Black-tailed godwit , *Limosa limosa islandica*, Dark-bellied brent goose, *Branta bernicla bernicla*, and Eurasian teal , *Anas crecca.*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E5: The Solent	Solent Maritime SAC	• Estuaries; • Spartina swards *Spartinion maritimae*; • Atlantic salt meadows *Glauco-Puccinellietalia maritimae*; • Sandbanks which are slightly covered by sea water all the time; • Mudflats and sandflats not covered by seawater at low tide; and • Salicornia and other annuals colonizing mud and sand.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E5: The Solent	South Wight Maritime SAC	• Reefs, and Submerged or partially submerged sea caves	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
						seabed due to planting activities and seabed sampling.		parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✖	✓	✖	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E5: The Solent	Chichester and Langstone Harbours SPA	• A054 *Anas acuta*; • A056 *Anas clypeata*; • A052 *Anas crecca*; • A050 *Anas penelope*; • A169 *Arenaria interpres*; • A675 *Branta bernicla bernicla*; • A144 *Calidris alba*; • A672 *Calidris alpina alpina*; • A137 *Charadrius hiaticula*; • A157 *Limosa lapponica*; • A069 *Mergus serrator*; • A160 *Numenius arquata*; • A141 *Pluvialis squatarola*; • A195 *Sterna albifrons*; • B A193 *Sterna hirundo*; • A191 *Sterna sandvicensis*; • A048 *Tadorna tadorna*; • A162 *Tringa totanus*; and • Waterfowl assemblage.	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E5: The Solent	Portsmouth Harbour SPA	• A675 *Branta bernicla bernicla*; • A672 *Calidris alpina alpina*; • A616 *Limosa limosa islandica*; and • A069 *Mergus serrator*.	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E5: The Solent	Solent and Southampton Water SPA	• A052 *Anas crecca*; • A675 *Branta bernicla bernicla*; • A137 *Charadrius hiaticula;* • A176 *Larus melanocephalus*; • A616 *Limosa limosa islandica*; • A195 *Sterna albifrons*; • A192 *Sterna dougallii*; • A193 *Sterna hirundo*; • A191 *Sterna sandvicensis*; and • Waterfowl assemblage.	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Benfleet and Southend Marshes Ramsar	• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter 32867 waterfowl (5 year peak mean 1998/99-2002/2003); and	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		• Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Dark-bellied brent goose, *Branta bernicla bernicla*. Species with peak counts in winter: Grey plover, *Pluvialis squatarola*, and Red knot , Calidris *canutus islandica*,. Species/populations identified subsequent to designation for possible future consideration under criterion 6: Species with peak counts in winter: Dunlin, *Calidris alpina alpina*.	✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Blackwater Estuary (Mid-Essex Coast Phase 4) Ramsar	• Ramsar criterion 1: Qualifies by virtue of the extent and diversity of saltmarsh habitat present. This site, and the four others in the Mid-Essex Coast complex, includes a total of 3,237 ha that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain; • Ramsar criterion 3: This site supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 5: Species with peak counts in winter: 105061 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: species/populations occurring at levels of international importance. Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla* bernicla, Grey plover, *Pluvialis squatarola*, Dunlin , *Calidris alpina alpina*, and ,Black-tailed godwit , *Limosa limosa islandica*, Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in winter: Common shelduck, *Tadorna tadorna*, European golden plover, *Pluvialis apricaria apricaria*, and Common redshank, *Tringa totanus totanus*.	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Crouch & Roach Estuaries (Mid-Essex Coast Phase 3) Ramsar	• Ramsar criterion 2: Supports an appreciable assemblage of rare, vulnerable or endangered species or subspecies of plant and animal including 13 nationally scarce plant species: slender hare's ear Bupleurum tenuissimum, divided sedge *Carex divisa*, sea	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		barley *Hordeum marinum*, golden-samphire *Inula crithmoides*, laxflowered sea-lavender *Limonium humile*, curved hard-grass *Parapholis incurva*, Borrer's saltmarsh grass *Puccinellia fasciculata*, stiff saltmarsh grass *Puccinellia rupestris*, spiral tasselweed *Ruppia cirrhosa*, one-flowered glasswort *Salicornia pusilla*, small cord-grass *Spartina maritima*, shrubby seablite *Suaeda vera* and sea clover *Trifolium squamosum*. Several important invertebrate species are also present on the site, including scarce emerald damselfly *Lestes dryas*, the shorefly *Parydroptera discomyzina*, the rare soldier fly *Stratiomys singularior*, the large horsefly *Hybomitra expollicata*, the beetles *Graptodytes bilineatus* and *Malachius vulneratus*, the ground lackey moth *Malacosoma castrensis* and *Eucosoma catoprana*.						sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 16970 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*.	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Dengie (Mid-Essex Coast Phase 1) Ramsar	• Ramsar criterion 1: Qualifies by virtue of the extent and diversity of saltmarsh habitat present. Dengie, and the four other sites in the Mid-Essex Coast Ramsar site complex, includes a total of 3,237 ha, that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain; • Ramsar criterion 2: Dengie supports a number of rare plant and animal species. The Dengie has 11 species of nationally scarce plants: sea kale *Crambe maritima*, sea barley *Hordeum marinum*, golden samphire *Inula crithmoides*, lax flowered sea lavender *Limonium humile*, the glassworts *Sarcocornia perennis* and *Salicornia pusilla*, small cord-grass *Spartina maritima*, shrubby sea-blite *Suaeda vera,* and the *eelgrasses* Zostera *angustifolia*, *Z. marina* and *Z. noltei*. The invertebrate fauna includes the	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		following Red Data Book species: a weevil *Baris scolopacea*, a horsefly *Atylotus latistriatus* and a jumping spider *Euophrys browning*; and • Ramsar criterion 3: This site supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.						
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter 43828 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*, Grey plover, *Pluvialis squatarola*, and Red knot , *Calidris canutus islandica*. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in winter: Bar-tailed godwit, *Limosa lapponica lapponica*,	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Foulness (Mid-Essex Coast Phase 5) Ramsar	• Ramsar criterion 1: This site qualifies by virtue of the extent and diversity of saltmarsh habitat present. This and four other sites in the Mid-Essex Coast Ramsar site complex, include a total of 3,237 ha, that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain; and • Ramsar criterion 3: The site contains extensive saltmarsh habitat, with areas supporting full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.	✓	✖	✖	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✖	✖	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✖	✓	✖	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 82148 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank, *Tringa totanus totanus*. Species with peak counts in winter Dark-bellied brent goose, *Branta bernicla bernicla*	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		Eurasian oystercatcher, *Haematopus ostralegus ostralegus*, Grey plover , *Pluvialis squatarola*, Red knot , *Calidris canutus islandica* and Bar-tailed godwit , *Limosa lapponica lapponica*,						
E6: Essex Estuaries	Medway Estuary & Marshes Ramsar	• Ramsar criterion 2: The site supports a number of species of rare plants and animals. The site holds several nationally scarce plants, including sea barley *Hordeum marinum*, curved hard-grass *Parapholis incurva*, annual beard-grass *Polypogon monspeliensis*, Borrer's saltmarsh-grass *Puccinellia fasciculata*, slender hare`s-ear *Bupleurum tenuissimum*, sea clover *Trifolium squamosum*, saltmarsh goose-foot *Chenopodium chenopodioides*, golden samphire Inula *crithmoides*, perennial glasswort *Sarcocornia perennis* and one-flowered glasswort *Salicornia pusilla*. A total of at least twelve British Red Data Book species of wetland invertebrates have been recorded on the site. These include a ground beetle *Polistichus connexus*, a fly *Cephalops perspicuus*, a dancefly *Poecilobothrus ducalis*, a fly *Anagnota collini,* a weevil Baris *scolopacea*, a water beetle *Berosus spinosus*, a beetle *Malachius vulneratus*, a rove beetle *Philonthus punctus*, the ground lackey moth *Malacosoma castrensis*, a horsefly *Atylotus latistriatuus*, a fly *Campsicnemus magius*, a solider beetle, *Cantharis fusca*, and a cranefly *Limonia danica*. A significant number of non-wetland British Red Data Book species also occur.	✓	✖	✖	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✖	✖	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✖	✓	✖	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 47637 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Grey plover, *Pluvialis squatarola*, Common redshank , *Tringa totanus totanus*. Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*, Common shelduck, *Tadorna tadorna*, Northern pintail , *Anas*	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		acuta, Ringed plover , *Charadrius hiaticula*: Red knot , *Calidris canutus islandica*, and Dunlin , *Calidris alpina alpina*. Species/populations identified subsequent to designation for possible future consideration under criterion 6: Species with peak counts in spring/autumn: Black-tailed godwit, *Limosa limosa islandica*.						
		• Ramsar criterion 5: Assemblages of international importance: Species with peak counts in winter: 45,118 waterfowl (5 year peak mean 1998/99-2002/2003)	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
		• Ramsar criterion 6: Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Black-tailed godwit, *Limosa limosa islandica*. Species with peak counts in winter: Dunlin, *Calidris alpina alpina*, and Red knot , *Calidris canutus islandica*.	✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Thanet Coast & Sandwich Bay Ramsar	• Ramsar criterion 2: Supports 15 British Red Data Book wetland invertebrates.	✓	✖	✖	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✖	✖	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✖	✓	✖	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 6: species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in winter: Ruddy turnstone, *Arenaria interpres interpres*.	✓	✖	✖	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✖	Accidental pollution	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	The Swale Ramsar	• Ramsar criterion 2: The site supports nationally scarce plants and at least seven red data book invertebrates. The site supports the GB Red Book vulnerable plants *Bupleurum tenuissimum, Carex divisa* and *Hordeum marinum,* as well as the endangered *Spartina maritima*.	✓	✖	✖	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✖	✖	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 5: Assemblages of international importance:. Species with peak counts in winter: 77,501 waterfowl (5 year peak mean 1998/99-2002/2003); and • Ramsar criterion 6: Species/populations occurring at levels of international importance. Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn: Ringed plover, *Charadrius hiaticula*. Species with peak counts in winter: Black-tailed godwit, *Limosa limosa islandica*, Eurasian wigeon , *Anas penelope*, Northern pintail , *Anas acuta*, and Northern shoveler , *Anas clypeata*.	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Essex Estuaries SAC	• Estuaries; • Mudflats and sandflats not covered by seawater at low tide; • Salicornia and other annuals colonizing mud and sand; • Spartina swards (*Spartinio maritima*); • Atlantic salt meadows *(Glauco-Puccinellietalia maritimae*); and • Sandbanks which are slightly covered by sea water all the time.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E6: Essex Estuaries	Margate and Long Sands SAC	• Sandbanks which are slightly covered by sea water all the time.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E6: Essex Estuaries	Thanet Coast SAC	• Reefs; and • Submerged or partially submerged sea caves.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E6: Essex Estuaries	Benfleet and Southend Marshes SPA	• A675 *Branta bernicla bernicla;* • A672 *Calidris alpina alpina;* • A143 *Calidris canutus;* • A137 *Charadrius hiaticula;* • A141 *Pluvialis squatarola;* and • Waterfowl assemblage.	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Blackwater Estuary (Mid-Essex Coast Phase 4) SPA	• A059 *Aythya ferina;* • A675 *Branta bernicla bernicla;* • A672 *Calidris alpina alpina;* • A137 *Charadrius hiaticula;* • A137 *Charadrius hiaticula;* • A082 *Circus cyaneus;* • A616 *Limosa limosa islandica;* • A141 *Pluvialis squatarola;* • A195 *Sterna albifrons;* and • Waterfowl assemblage.	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA	• A675 *Branta bernicla bernicla;* and • Waterbird assemblage.	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Dengie (Mid-Essex Coast Phase 1) SPA	• A675 *Branta bernicla bernicla;* • A143 *Calidris canutus;* • A082 *Circus cyaneus;* • A141 *Pluvialis squatarola*; and • Waterfowl assemblage.	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Foulness (Mid-Essex Coast Phase 5) SPA	• A675 *Branta bernicla bernicla;* • A143 *Calidris canutus;* • A137 *Charadrius hiaticula;* • A082 *Circus cyaneus;* • A130 *Haematopus ostralegus;* • A157 *Limosa lapponica;* • A141 *Pluvialis squatarola;* • A132 *Recurvirostra avosetta;* • A195 *Sterna albifrons;*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		• A193 *Sterna hirundo;* • A191 *Sterna sandvicensis;* • A162 *Tringa totanus;* and • Waterfowl assemblage.						
E6: Essex Estuaries	Medway Estuary and Marshes SPA	• A054 *Anas acuta;* • A056 *Anas clypeata;* • A052 *Anas crecca;* • A050 *Anas penelope;*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
		• A053 *Anas platyrhynchos;*	✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• A169 *Arenaria interpres;* • A059 *Aythya ferina;* • A675 *Branta bernicla bernicla;* • A672 *Calidris alpina alpina;* • A143 *Calidris canutus;* • A137 *Charadrius hiaticula;* • A082 *Circus cyaneus;* • A037 *Cygnus columbianus bewickii;* • A098 *Falco columbarius;* • A001 *Gavia stellata;* • A130 *Haematopus ostralegus;* • A616 *Limosa limosa islandica;* • A160 *Numenius arquata;* • A017 *Phalacrocorax carbo;* • A141 *Pluvialis squatarola;* • A005 *Podiceps cristatus;* • A132 *Recurvirostra avosetta;* • A132 *Recurvirostra avosetta;* • A195 *Sterna albifrons ;* • A193 *Sterna hirundo;* • A048 *Tadorna tadorna;* • A164 *Tringa nebularia;* and • A162 *Tringa totanus.*	✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Outer Thames Estuary SPA	• A001 *Gavia stellata;* • A195 *Sterna albifrons;* and • A193 *Sterna hirundo.*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	Thames Estuary and Marshes SPA	• A672 *Calidris alpina alpina;* • A143 *Calidris canutus;* • A137 *Charadrius hiaticula;* • A082 *Circus cyaneus;*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
		• A616 *Limosa limosa islandica;*	✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• A141 *Pluvialis squatarola;* • A132 *Recurvirostra avosetta;* • A162 *Tringa totanus;* and	✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		• Waterfowl assesmblage.				or displacement from important foraging and habitat areas of birds.		
E6: Essex Estuaries	Thanet Coast and Sandwich Bay SPA	• A169 *Arenaria interpres;* • A140 *Pluvialis apricaria;* and • A195 *Sterna albifrons.*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E6: Essex Estuaries	The Swale SPA	• A052 *Anas crecca;* • A051 *Anas strepera;* • A675 *Branta bernicla bernicla;* • A672 *Calidris alpina alpina;* • A137 *Charadrius hiaticula;* • A130 *Haematopus ostralegus;* • A160 *Numenius arquata;* • A141 *Pluvialis squatarola;* • A162 *Tringa totanus;* • Breeding bird assemblage; and • Waterfowl assemblage	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E7: Humber Estuary	Humber Estuary Ramsar	• Ramsar criterion 1:The site is a representative example of a near-natural estuary with the following component habitats: dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes, and coastal brackish/saline lagoons.	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Ramsar criterion 3: The Humber Estuary Ramsar site supports a breeding colony of grey seals Halichoerus grypus at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast	✓	✗	✗	Increased vessel traffic during planting activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✓	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	Increased vessel traffic during monitoring activities may result in an increase in disturbance to or collision risk with marine mammals.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
		• Ramsar criterion 8: The Humber Estuary acts as an important migration route for both river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*) between coastal waters and their spawning areas.	✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	No potential for AEOI

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		• Ramsar criterion 5: Assemblages of international importance: 153,934 waterfowl, non-breeding season (5 year peak mean 1996/97-2000/2001); and • Ramsar criterion 6: species/populations occurring at levels of international importance: Common shelduck, *Tadorna tadorna*, Eurasian golden plover, *Pluvialis apricaria*, *altifrons*, Red knot, *Calidris canutus islandica*, Dunlin, *Calidris alpina alpina*, Black-tailed godwit, *Limosa limosa islandica*, Bar-tailed godwit, *Limosa lapponica lapponica*, and Common redshank, *Tringa totanus*.	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E7: Humber Estuary	Humber Estuary SAC	• Estuaries; • Mudflats and sandflats not covered by seawater at low tide; • Sandbanks which are slightly covered by sea water all the time; • Coastal lagoons (*Priority feature); • Salicornia and other annuals colonizing mud and sand and; • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*).	✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI.**
			✗	✓	✗	Change of habitat type following introduction or reinstatement of seagrass.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
		• Sea lamprey, *Petromyzon marinus* • River lamprey, *Lampetra fluviatilis*; and • Grey seal, *Halichoerus grypus*.	✓	✗	✗	Increases in suspended sediment concentrations and deposition of disturbed sediments to the seabed due to planting activities and seabed sampling.	CoC-OFF-8	The works will result in the disturbance of small amounts of sediment, with the sediment being released into the water column and subsequently dispersed with the tide. Given the small amounts, the natural background levels of suspended sediment in the lower parts of the water column in the UK waters, the short term and intermittent releases of sediment, and the implementation of CoC-OFF-8, it can be concluded that there is **no potential for AEoI**
			✓	✗	✗	Temporary habitat disturbance from planting activities and seabed sampling.	CoC-OFF-8	As a result of the implementation of CoC-OFF-8 and the impact being highly limited in extent and duration, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
E7: Humber Estuary	Greater Wash SPA	• A001 *Gavia stellata;* • A177 *Larus minutus;* • A065 *Melanitta nigra;* • A195 *Sterna albifrons;* • A193 *Sterna hirundo;* and • A191 *Sterna sandvicensis.*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**
			✗	✓	✗	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
E7: Humber Estuary	Humber Estuary SPA	• A052 *Anas crecca;* • A050 *Anas penelope;* • A053 *Anas platyrhynchos;* • A169 *Arenaria interpres;* • A059 *Aythya ferina;*	✓	✗	✗	The impact of planting activities such as increased vessel activity may result in direct disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**
			✓	✓	✗	Accidental pollution.	CoC-OFF-7	As a result of the implementation of CoC-OFF-7, there is **no potential for AEoI.**

AoS	Site	Feature	Project Phase C	Project Phase O	Project Phase D	Effect	Relevant Commitment	Potential for AEoI
		• A062 *Aythya marila;* • A021 *Botaurus stellaris;* • A675 *Branta bernicla bernicla;* • A067 *Bucephala clangula;* • A144 *Calidris alba;* • A672 *Calidris alpina alpina;* • A143 *Calidris canutus;* • A137 *Charadrius hiaticula;* • A081 *Circus aeruginosus;* • A082 *Circus cyaneus;* • A130 *Haematopus ostralegus;* • A157 *Limosa lapponica;* • A616 *Limosa limosa islandica;* • A160 *Numenius arquata;* • A158 *Numenius phaeopus;* • A151 *Philomachus pugnax;* • A140 *Pluvialis apricaria;* • A141 *Pluvialis squatarola;* • A132 *Recurvirostra avosetta;* • A195 *Sterna albifrons;* • A048 *Tadorna tadorna;* • A164 *Tringa nebularia;* • A162 *Tringa totanus;* • A142 *Vanellus vanellus;* and • Waterfowl assemblage.	✖	✓	✖	The impact of monitoring activities such as increased vessel activity may result in disturbance or displacement from important foraging and habitat areas of birds.	CoC-OFF-4	As a result of the implementation of CoC-OFF-4, there is **no potential for AEoI.**

9 Conclusions

9.1.1.1 The Hornsea Four Compensation Measures HRA has provided the information necessary for the competent authority to undertake HRA Stage 1 (Screening) and Stage 2 (AA) with respect to the following Compensation Measures:

- A repurposed offshore nesting platform;
- A new offshore nesting platform;
- A new onshore nesting platform;
- Bycatch Reduction technologies;
- Predator eradication; and
- Resilience Measure – Fish Habitat Enhancement (Seagrass).

9.1.1.2 Each measure is described in terms of the AoS (where the measures could be located), how the measure would be implemented, managed and (where relevant) decommissioned. For each Compensation Measure, the potential effects that may result are identified for each stage of the Measure, with reference to the relevant receptor groups: benthic ecology, migratory fish, marine mammals, offshore and intertidal ornithology and onshore ecology.

9.1.1.3 For each compensation Measure (and for some with respect to more than one AoS), GIS has been applied to identify the relevant sites and features to consider for Stage 1 Screening. Potential for LSE is then established, per Compensation Measure and for each site and feature. Where no potential for LSE is identified, then the site/feature/effect is not carried forward to Stage 2 AA. Where potential for LSE is identified alone, it is assumed that potential for LSE applies in-combination.

9.1.1.4 For the sites/features/effects screened in for potential LSE, and for each Compensation Measure in turn, determination of the potential for AEoI is made. For all Compensation Measures, a conclusion of no AEoI has been drawn and therefore no requirement to progress beyond Stage 2 has been identified. In the majority of cases, project level mitigation commitments (**Table 7**) have been applied to ensure no AEoI would arise alone. Where the potential effect is considered to be trivial and inconsequential, then minor effects are concluded as not adverse, with such effects considered to be within natural change.

9.1.1.5 With respect to the potential for a small change from the project alone to contribute to an in-combination effect, it is not possible at this stage to undertake an in-combination assessment given the broadscale nature of the AoS. However, as these areas become more refined, such an assessment will be possible and would be considered as part of the associated licensing process if required (as noted under **Section 2.4**.

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Appendix A: Metadata for the datasets used in the screening exercise

Name	Description	Data Type	Originator	Dates: Created (Downloaded by Authors)	Notes
UK_SACs	*UK SACs (GB & NI)*	*e.g. shapefile/PDF/ spreadsheet/web data*	*JNCC*	*December 2017 (August 2021)*	*As required*
HOW04_European_SACs_Natura2000_ETRS89	European SACs/SCIs	ArcGIS Feature Class	European Commission - Natura 2000	end 2019 (June 2020)	Used to show Doggersbank and Klaverbank SACs (for site A1)
HOW04_UK_SACs_with_Marine_Components_ETRS89	UK Marine SACs	ArcGIS Feature Class	JNCC	Dec 2018 (14/01/2019)	
HOW04_Special_Areas_of_Conservation_England_BNG	England Onshore SACs	ArcGIS Feature Class	Natural England	Jan 2019 (14/01/2019)	
HOW04_UK_SPAs_with_Marine_Components_ETRS89	UK Marine SPAs	ArcGIS Feature Class	JNCC	Dec 2018 (14/01/2019)	
HOW04_Special_Protected_Areas_England_BNG	England Onshore SPAs	ArcGIS Feature Class	Natural England	2019 (April 2019)	
HOW04_UK_Ramsar_ETRS89	England Ramsar Sites	ArcGIS Feature Class	Natural England	Jan 2019 (14/01/2019)	Guernsey sites 'Gouliot Caves and Headland' and 'Herm, Jethou and The Humps' digitised from online plans
HOW04_Offshore_WFs_20210614_ETRS89	Offshore Wind Farms	ArcGIS Feature Class	TCE, CES, EMODnet, 4Coffshore	Compiled from sources June 2021	
HOW04_Oil_and_Gas_Surface_Features_ETRS89	UK Oil & Gas Platforms	ArcGIS Feature Class	Oil & Gas Authority UK	April 2019 (April 2019)	

Appendix B: Information on Identified Designated Sites.

Site Name	Designated Features	Link to Site Citation	Link to Conservation Objectives
Benfleet and Southend Marshes Ramsar	Bird assemblages, dark-bellied brent goose, *Branta bernicla bernicla*, grey plover, *Pluvialis squatarola*, and red knot, *Calidris canutus islandica*, dunlin, *Calidris alpina alpina*	https://jncc.gov.uk/jncc-assets/RIS/UK11006.pdf	N/A
Blackwater Estuary (Mid-Essex Coast Phase 4) Ramsar	Saltmarsh, *Paracymus aeneus*; *Lestes dryas*, *Aedes flavescens*, *Erioptera bivittata*, *Hybomitra expollicata*, *Heliophanus auratus*,*Trichopterna cito*, *Baris scolopacea*, *Philonthus punctus*, *Graptodytes bilineatus*, *Malachius vulneratus*, *Campsicemus magius*, *Myopites eximia*, *Idaea ochrata*, *Malacosoma castrensis*, the spider *Euophrys*, waterfowl assemblage, dark-bellied brent goose, *Branta bernicla bernicla*, grey plover, *Pluvialis squatarola*, dunlin , *Calidris alpina alpina*, and, black-tailed godwit, *Limosa limosa islandica*, common shelduck , *Tadorna tadorna*, European golden plover , *Pluvialis apricaria apricaria*, and common redshank , *Tringa totanus totanus*.	https://jncc.gov.uk/jncc-assets/RIS/UK11007.pdf	N/A
Breydon Water Ramsar	Waterfowl assemblage, Bewick's Swan *(Cygnus columbianus bewickii)* and Lapwing *(Vanellus vanellus).*	https://jncc.gov.uk/jncc-assets/RIS/UK11008.pdf	N/A
Chichester and Langstone Harbours Ramsar	Intertidal mudflats, saltmarsh, sand and shingle spits, sand dunes, bird assemblages, ringed plover, *Charadrius hiaticula*, black-tailed godwit, *Limosa limosa islandica*, and common redshank, *Tringa totanus totanus*, dark-bellied brent goose, *Branta bernicla bernicla*, common shelduck, *Tadorna tadorna*, grey plover, *Pluvialis squatarola*, and dunlin, *Calidris alpina alpina*, and little tern, *Sterna albifrons albifrons*	https://jncc.gov.uk/jncc-assets/RIS/UK11013.pdf	N/A
Crouch & Roach Estuaries (Mid-Essex Coast Phase 3) Ramsar	*Bupleurum tenuissimum, Carex divisa, Hordeum marinum, Inula crithmoides, Limonium humile, Parapholis incurve, Puccinellia fasciculata, Puccinellia rupestris, Ruppia cirrhosa, Salicornia pusilla, Spartina maritima, Suaeda vera* and *Trifolium squamosum, Lestes dryas, Parydroptera discomyzina, Stratiomys singularior, Hybomitra expollicata, Graptodytes bilineatus, Malachius vulneratus,*	https://jncc.gov.uk/jncc-assets/RIS/UK11058.pdf	N/A

Site Name	Designated Features	Link to Site Citation	Link to Conservation Objectives
	Malacosoma castrensis, Eucosoma catoprana, wildfowl assemblage, and dark-bellied brent goose*, Branta bernicla bernicla.*		
Dengie (Mid-Essex Coast Phase 1) Ramsar	Saltmarsh, sea kale ,*Crambe maritima*, sea barley, *Hordeum marinum*, golden samphire, *Inula crithmoides*, lax flowered sea lavender, *Limonium humile*, the glassworts, *Sarcocornia perennis* and *Salicornia pusilla*, small cord-grass, *Spartina maritima*, shrubby sea-blite, *Suaeda vera*, the eelgrasses, *Zostera angustifolia*, *Z. marina* and *Z. noltei*, *Baris scolopacea*, *Atylotus latistriatus*, *Euophrys browning*, Dark-bellied brent goose, *Branta bernicla bernicla*, Grey plover, *Pluvialis squatarola*, and Red knot, *Calidris canutus islandica*, and Bar-tailed godwit, *Limosa lapponica lapponica.*	https://jncc.gov.uk/jncc-assets/RIS/UK11018.pdf	N/A
Foulness (Mid-Essex Coast Phase 5) Ramsar	Saltmarsh, nationally-rare and nationally-scarce plant species and invertebrates, Common redshank, *Tringa totanus totanus.* Species with peak counts in winter Dark-bellied brent goose, *Branta bernicla bernicla* Eurasian oystercatcher, *Haematopus ostralegus ostralegus*, Grey plover, *Pluvialis squatarola*, Red knot, *Calidris canutus islandica* and Bar-tailed godwit, *Limosa lapponica lapponica*,.	https://jncc.gov.uk/jncc-assets/RIS/UK11026.pdf	N/A
Gibraltar Point Ramsar	Dune and saltmarsh habitats, freshwater marsh containing sedges *Carex spp.*, rushes *Juncus spp.*, and ferns, including adder's-tongue fern *Ophioglossum vulgatum*, nationally rare saltmarsh/dune communities containing sea heath *Frankenia laevis*, rock sea lavender *Limonium binervosum* and shrubby seablite *Suaeda vera*, wetland invertebrate species.	https://jncc.gov.uk/jncc-assets/RIS/UK11027.pdf	N/A
Gouliot Caves and Headland Ramsar	Assemblage of marine life found on the walls of the caves. Wide range of inter-tidal and normally sub-littoral invertebrates. Particularly noteworthy are the sponges (Porifera), and sea anemones and other hydroids (Cnidaria).	GB2276RIS_1701_en.pdf (ramsar.org)	N/A
Herm, Jethou and The Humps Ramsar	Dwarf eelgrass (*Zostera noltii)* beds, Maerl beds, shallow reef systems, sunken shipwreck reefs and Golden Kelp (*Laminaria ochroleuca*) provide important fish spawning habitats for fish such as Sea Bass and Black Sea Bream, with significant tidal races. The	GB2277RIS_1701_en.pdf (ramsar.org)	N/A

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	bivalve reefs contained within the site are particular significant. The Site is contiguous with benthic and pelagic habitats supporting flatfish and shellfish among others.		
Humber Estuary Ramsar	Dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes, coastal brackish/saline *lagoons,* river lamprey (*Lampetra fluviatilis*), sea lamprey (*Petromyzon marinus),* grey seals (*Halichoerus grypus*), waterfowl assemblage, Common shelduck (*Tadorna tadorna*), Eurasian golden plover (*Pluvialis apricaria*), Red knot (*Calidris canutus*), islandica subspecies, Dunlin (*Calidris alpina*), Black-tailed godwit (*Limosa limosa*), Bar-tailed godwit (*Limosa lapponica*) and Common redshank (*Tringa totanus*).	https://jncc.gov.uk/jncc-assets/RIS/UK11031.pdf	N/A
Isles of Scilly Ramsar	*Hydrobates pelagicus, Larus fuscus,* and *Phalacrocorax aristotelis aristotelis*	https://jncc.gov.uk/jncc-assets/RIS/UK11033.pdf	N/A
Medway Estuary & Marshes Ramsar	Sea barley, *Hordeum marinum*, curved hard-grass, *Parapholis incurva*, annual beard-grass, *Polypogon monspeliensis*, Borrer's saltmarsh-grass, *Puccinellia* fasciculata, slender hare`s-ear, *Bupleurum tenuissimum*, sea clover, *Trifolium squamosum*, saltmarsh goose-foot, *Chenopodium chenopodioides*, golden samphire, *Inula crithmoides*, perennial glasswort, *Sarcocornia perennis* and one-flowered glasswort, *Salicornia pusilla*, Polistichus connexus, *Cephalops perspicuus, Poecilobothrus ducalis, Anagnota collini, Baris scolopacea, Berosus spinosus, Malachius vulneratus, Philonthus punctus, Malacosoma castrensis, Atylotus latistriatuus, Campsicnemus magius, , Cantharis fusca, Limonia Danica, waterfowl assemblage,* grey plover *, Pluvialis squatarola,* common redshank *, Tringa totanus totanus,* dark-bellied brent goose*, Branta bernicla bernicla,* common shelduck *, Tadorna tadorna,* northern pintail *, Anas acuta,* ringed plover *, Charadrius hiaticula,* red knot *, Calidris canutus islandica,* and dunlin *, Calidris alpina alpina,* black-tailed godwit *, Limosa limosa islandica.*	https://jncc.gov.uk/jncc-assets/RIS/UK11040.pdf	N/A
Minsmere-Walberswick Heaths and Marshes Ramsar	This composite Suffolk coastal site contains a complex mosaic of habitats notably, areas of marsh with dykes, extensive reedbeds,	https://jncc.gov.uk/jncc-assets/RIS/UK11044.pdf	N/A

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	mud flats, lagoons, shingle, woodland and areas of lowland heath. The site supports the largest continuous stand of reed *Phragmites australis* in England and Wales and nationally rare transition in grazing marsh ditch plants from brackish to fresh water. The combination of habitats create an exceptional area of scientific interest supporting nationally scarce plants, RDB invertebrates and nationally important numbers of breeding and wintering birds.		
Northumbria Coast Ramsar	The site consists mainly of areas of rocky shore with associated boulder and cobble beaches. These support a rich algal flora and associated fauna and form an important feeding area for wading birds. The areas of sandy beach within the site support a flora which includes marram *Ammophila arenaria* and sea sandwort *Honkenya peploides*.	https://jncc.gov.uk/jncc-assets/RIS/UK11049.pdf	N/A
North Norfolk Coast Ramsar	Marshland coast with intertidal sand and mud, saltmarshes, shingle banks and sand dunes, brackish-water lagoons and extensive areas of freshwater grazing marsh and reed beds, nationally scarce vascular plants, lichen and invertebrates, bird assemblage Sandwich tern , *Sterna sandvicensis sandvicensis*; Common tern , *Sterna hirundo hirundo*; and Little tern , *Sterna albifrons albifrons*. Red knot , *Calidris canutus islandica*, Pink-footed goose , *Anser brachyrhynchus*; Dark-bellied brent goose, *Branta bernicla bernicla*; Eurasian wigeon , *Anas penelope*; and Northern pintail , *Anas acuta*. Ringed plover , *Charadrius hiaticula*; Sanderling , *Calidris alba*; and Bar-tailed godwit , *Limosa lapponica lapponica*.	https://jncc.gov.uk/jncc-assets/RIS/UK11048.pdf	N/A
Portsmouth Harbour Ramsar	*Zostera angustifolia and Zostera noltei,* dark-bellied brent goose, *Branta bernicla bernicla,* mud-snail *Hydrobia ulvae,* Common cord-grass *Spartina anglica,* saltmarsh, green algae *Enteromorpha spp,* sea lettuce *Ulva lactuca,* sea purslane *Halimione portulacoides,* and saline lagoons.	https://jncc.gov.uk/jncc-assets/RIS/UK11055.pdf	N/A
Solent & Southampton Water Ramsar	Saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and	https://jncc.gov.uk/jncc-assets/RIS/UK11063.pdf	N/A

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	rocky boulder reefs, assemblage of rare plants and invertebrates, plants *Orobanche purpurea* and *Spartina maritima*, *Larus melanocephalus*, bird assemblages, black-tailed godwit (*Limosa limosa islandica*), Dark-bellied brent goose (*Branta bernicla bernicla*), and Eurasian teal, (*Anas crecca*).		
Teesmouth and Cleaveland Coast Ramsar	Bird assemblage, common redshank, *Tringa totanus totanus*, and red knot, *Calidris canutus islandica.*	https://jncc.gov.uk/jncc-assets/RIS/UK11068.pdf	N/A
Thames Estuary & Marshes Ramsar	More than 20 British Red Data Book invertebrates, least lettuce (*Lactuca saligna*), slender hare's-ear (*Bupleurum tenuissimum*), divided sedge (*Carex divisa*), sea barley (*Hordeum marinum*), Borrer's saltmarsh-grass (*Puccinellia fasciculata*), and dwarf eelgrass (*Zostera noltei*).	https://jncc.gov.uk/jncc-assets/RIS/UK11069.pdf	N/A
Thanet Coast and Sandwich Bay Ramsar	15 British Red Data Book wetland invertebrates, and ruddy turnstone, *Arenaria interpres interpres.*	https://jncc.gov.uk/jncc-assets/RIS/UK11070.pdf	N/A
The Swale Ramsar	Seven red data book invertebrates, *Bupleurum tenuissimum*, *Carex divisa*, *Hordeum marinum*, *Spartina maritima*, waterfowl assemblage, ringed plover, *Charadrius hiaticula*. black-tailed godwit, *Limosa limosa islandica*, Eurasian wigeon, *Anas penelope*, northern pintail, *Anas acuta*, and northern shoveler, *Anas clypeata.*	https://jncc.gov.uk/jncc-assets/RIS/UK11071.pdf	N/A
The Wash Ramsar	Saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels, bird assemblage, *Common redshank, Tringa totanus totanus;* Eurasian curlew, *Numenius arquata arquata,* Eurasian oystercatcher, *Haematopus ostralegus ostralegus;* Grey plover , *Pluvialis squatarola;* Red knot , *Calidris canutus islandica;* and Sanderling , *Calidris alba.* Black-headed gull, *Larus ridibundus;* Common eider, *Somateria ollissima mollissima;* Bar-tailed godwit , *Limosa lapponica lapponica;* Common shelduck , *Tadorna tadorna;* Dark-bellied brent goose, *Branta bernicla bernicla;* Dunlin , *Calidris alpina alpina;* and Pink-footed goose , *Anser brachyrhynchus.* Black-tailed godwit, *Limosa limosa islandica;* and Ringed plover, *Charadrius*	https://jncc.gov.uk/jncc-assets/RIS/UK11072.pdf	N/A

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	hiaticula. Species with peak counts in winter: European golden plover, *Pluvialis apricaria altifrons;* and Northern lapwing , *Vanellus vanellus.*		
Benacre to Easton Bavents Lagoons SAC	Benacre to Easton Bavents Lagoons is a series of percolation lagoons on the east coast of England. The lagoons (the Denes, Benacre Broad, Covehithe Broad and Easton Broad) have formed behind shingle barriers and are a feature of a geomorphologically dynamic system. Sea water enters the lagoons by percolation through the barriers, or by overtopping them during storms and high spring tides. The lagoons show a wide range of salinities, from nearly fully saline in South Pool, the Denes, to extremely low salinity at Easton Broad. This range of salinity has resulted in a series of lagoonal vegetation types, including beds of narrow-leaved eelgrass Zostera angustifolia in fully saline or hypersaline conditions, beds of spiral tasselweed *Ruppia cirrhosa* in brackish water, and dense beds of common reed *Phragmites australis* in freshwater. The site supports a number of specialist lagoonal species.	https://sac.jncc.gov.uk/site/UK0013104	http://publications.naturalengland.org.uk/file/6005842830950400
Beast Cliff – Whitby (Robin Hood's Bay) SAC	Vegetated sea cliffs of the Atlantic and Baltic Coasts	http://publications.naturalengland.org.uk/file/5825370217512960	http://publications.naturalengland.org.uk/file/4812440709890048
Bristol Channel Approaches / Dynesfeydd Môr Hafren SAC	Harbour porpoise *(Phocoena phocoena)*	https://cdn.cyfoethnaturiol.cymru/media/675771/bristolchannelapproachesselectionassessmentdocument.pdf?mode=pad&rnd=131625760750000000	https://cdn.cyfoethnaturiol.cymru/media/679449/bristolchannelapproachesconservationobjectivesandadviceonactivities.pdf?mode=pad&rnd=131625760740000000
Castle Eden Dene SAC	Castle Eden Dene in north-east England represents the most extensive northerly native occurrence of yew *Taxus baccata* woods in the UK. Extensive yew groves are found in association with ash-elm *Fraxinus-Ulmus* woodland and it is the only site selected for yew woodland on magnesian limestone in north-east England.	https://sac.jncc.gov.uk/site/UK0012768	http://publications.naturalengland.org.uk/file/4911815473758208

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			http://publications.naturalengland.org.uk/file/5397001017753600
Dogger Bank SAC	Sandbanks which are slightly covered by sea water all the time	N/A	https://data.jncc.gov.uk/data/26659f8d-271e-403d-8a6b-300defcabcb1/DoggerBank-2-ConservationObjectives-v1.0.pdf
Doggersbank SAC	Reefs, submerged or partially submerged sea caves, and vegetated sea cliffs of the Atlantic and Baltic Coasts	https://eunis.eea.europa.eu/sites/NL2008001	N/A
Durham Coast SAC	The Durham Coast is the only example of vegetated sea cliffs on magnesian limestone exposures in the UK. These cliffs extend along the North Sea coast for over 20 km from South Shields southwards to Blackhall Rocks. Their vegetation is unique in the British Isles and consists of a complex mosaic of paramaritime, mesotrophic and calcicolous grasslands, tall-herb fen, seepage flushes and wind-pruned scrub. Within these habitats rare species of contrasting phytogeographic distributions often grow together forming unusual and species-rich communities of high scientific interest. The communities present on the sea cliffs are largely maintained by natural processes including exposure to sea spray, erosion and slippage of the soft magnesian limestone bedrock and overlying glacial drifts, as well as localised flushing by calcareous water.	https://sac.jncc.gov.uk/site/UK0030140	http://publications.naturalengland.org.uk/file/5518496490586112 http://publications.naturalengland.org.uk/file/5518496490586112
Essex Estuaries SAC	Estuaries, mudflats and sandflats not covered by seawater at low tide, Salicornia and other annuals colonizing mud and sand, Spartina swards (*Spartinion maritimae*), Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), and sandbanks which are slightly covered by sea water all the time.	http://publications.naturalengland.org.uk/file/6341545577938944	http://publications.naturalengland.org.uk/file/5457156304535552

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Fal and Helford SAC	Sandbanks which are slightly covered by sea water all the time, mudflats and sandflats not covered by seawater at low tide, Large shallow inlets and bays, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), estuaries; and reefs.	http://publications.naturalengland.org.uk/file/4955564324945920	http://publications.naturalengland.org.uk/file/5315639078289408
Flamborough Head SAC	Reefs, submerged or partially submerged sea caves, and vegetated sea cliffs of the Atlantic and Baltic Coasts	http://publications.naturalengland.org.uk/file/4896976395042816 (archived) and http://publications.naturalengland.org.uk/file/5977360486891520 (2018)	http://publications.naturalengland.org.uk/file/6625807107883008
Hainsborough, Hammond and Winterton SAC	Sandbanks which are slightly covered by sea water all the time, and Reefs.	N/A	https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK0030369&SiteName=Haisborough&SiteNameDisplay=Haisborough,%20Hammond%20and%20Winterton%20SAC&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&NumMarineSeasonality=&HasCA=1#hlco
Humber Estuary SAC	Estuaries, Mudflats and sandflats not covered by seawater at low tide, Sandbanks which are slightly covered by sea water all the time, Salicornia and other annuals colonizing mud and sand, Atlantic salt meadows *(Glauco-Puccinellietalia maritimae),* Embryonic shifting dunes, Coastal lagoons (*Priority feature), "Shifting dunes along the shoreline with *Ammophila arenaria* (""white dunes""), "Fixed coastal	http://publications.naturalengland.org.uk/file/5279612212871168	http://publications.naturalengland.org.uk/file/6294287600058368

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	dunes with herbaceous vegetation (""grey dunes"")" (*Priority feature), Dunes with *Hippoph rhamnoides*, Grey seal, *Halichoerus grypus* Sea lamprey, *Petromyzon marinus*, River lamprey, *Lampetra fluviatilis*		
Isles of Scilly SAC	Sandbanks which are slightly covered by seawater all the time, mudflats and sandflats not covered by seawater at low tide, reefs, Shore dock (Rumex rupestris) and grey seal (*Halichoerus grypus*).	http://publications.naturalengland.org.uk/file/5401458870583296	http://publications.naturalengland.org.uk/file/4585113526730752
Inner Dowsing, Race Bank and North Ridge SAC	Sandbanks which are slightly covered by sea water all the time, and reefs	N/A	http://publications.naturalengland.org.uk/file/6165144
Klaverbank SAC	Reefs, Coastal lagoons (*Priority feature), Perennial vegetation of stony banks, Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*) Embryonic shifting dunes, "Shifting dunes along the shoreline with *Ammophila arenaria* (""white dunes"")", "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" (*Priority feature) and Humid dune slacks.	https://eunis.eea.europa.eu/sites/NL2008002	N/A
Limestone Coast of South West Wales/ Arfordir Calchfaen de Orllewin Cymru SAC	Vegetated sea cliffs of the Atlantic and Baltic Coasts, "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")", European dry heaths, Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia) (** important orchid sites), Caves not open to the public, Submerged or partially submerged sea caves, Greater horseshoe bat *Rhinolophus ferrumequinum,* Early gentian *Gentianella anglica,* and Petalwort *Petalophyllum ralfsii.*	https://sac.jncc.gov.uk/site/UK0014787	N/A
Margate and Long Sands SAC	Sandbanks which are slightly covered by sea water all the time.	N/A	http://publications.naturalengland.org.uk/file/6272357069225984
Minsmere-Walberswick Heaths and Marshes SAC	1210 Annual vegetation of drift lines This site is one of two representatives of Annual vegetation of drift lines on the east coast of England. It occurs on a well-developed beach strandline of mixed sand and shingle and is the best and most	https://sac.jncc.gov.uk/site/UK0012809	http://publications.naturalengland.org.uk/file/4943448310546432

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	extensive example of this restricted geographical type. Species include those typical of sandy shores, such as sea sandwort *Honckenya peploides* and shingle plants such as sea beet *Beta vulgaris ssp. maritima*. 4030 European dry heaths Lowland European dry heaths occupy an extensive area of this site on the east coast of England, which is at the extreme easterly range of heath development in the UK. The heathland is predominantly NVC type H8 *Calluna vulgaris – Ulex gallii* heath, usually more characteristic of western parts of the UK. This type is dominated by heather *Calluna vulgaris*, western gorse *Ulex gallii* and bell heather *Erica cinerea*.		http://publications.naturalengland.org.uk/file/5537398570352640
North Antrim Coast SAC	The North Antrim Coast represents an extensive area of hard cliff along one of the most exposed coastlines in Northern Ireland. The site exhibits contrasting geology. The western part is centred on the Giant's Causeway with its geochemically alkali and intermediate basaltic high cliff, interspersed with a series of coves. The eastern section hosts the limited active and extensive fossil chalk sea-cliffs. The basalt series supports a range of communities including those associated with rock crevices and cliff ledges, and with a range of typical maritime grasslands and heath. Notable species for the site include Wilson's filmy-fern *Hymenophyllum wilsonii*, thyme broomrape *Orobanche alba*, hare's-foot clover *Trifolium arvense*, zigzag clover *Trifolium medium* and common juniper *Juniperus communis*. The chalk cliffs support mesotrophic and calcareous grasslands.	https://sac.jncc.gov.uk/site/UK0030224	https://www.daera-ni.gov.uk/sites/default/files/publications/doe/land-information-north-antrim-coast-conservation-objectives-2015.pdf
North Norfolk Sandbanks and Saturn Reef SAC	Sandbanks which are slightly covered by sea water all the time, and reefs.	N/A	https://jncc.gov.uk/our-work/north-norfolk-sandbanks-and-saturn-reef-mpa/#conservation-advice

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Pembrokeshire Marine/ Sir Benfro Forol SAC	Estuaries, large shallow inlets and bays, reefs; sandbanks which are slightly covered by sea water all the time, mudflats and sandflats not covered by seawater at low tide, coastal lagoons (* Priority feature), Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); submerged or partially submerged sea caves, sea lamprey (*Petromyzon marinus*), river lamprey (*Lampetra fluviatilis*), allis shad (*Alosa alsoa*), twaite shad (*Alosa fallax*), grey seal (*Phocoena phocoena*), shore dock (*Rumex rupestris*), and otter (*Lutra lutra*).	https://sac.jncc.gov.uk/site/UK0013116	N/A
Plymouth Sound and Estuaries SAC	Sandbanks which are slightly covered by sea water all the time; Estuaries, large shallow inlets and bays, reefs, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), mudflats and sandflats not covered by seawater at low tide, shore dock (*Rumex rupestris*), and Allis Shad (*Alosa alosa*).	http://publications.naturalengland.org.uk/file/6099280326557696	http://publications.naturalengland.org.uk/file/6256070553239552
Polruan to Polperro SAC	European dry heaths, vegetated sea cliffs of the Atlantic and Baltic coasts and Shore dock (*Rumex rupestris*)	http://publications.naturalengland.org.uk/file/4872275815825408	http://publications.naturalengland.org.uk/file/4678534727729152
Rathlin Island SAC	Reefs, submerged or partially submerged sea caves, sandbanks which are slightly covered by seawater all the time, annual vegetation of drift lines, and vegetated sea cliffs of the Atlantic and Baltic Coasts.	https://www.daera-ni.gov.uk/sites/default/files/publications/doe/land-information-reasons-for-designation-special-area-of-conservation-rathlin-island-2006.pdf	https://www.daera-ni.gov.uk/sites/default/files/publications/doe/Conservation%20Objectives%20%282017%29.%20%20Rathlin%20Island%20SAC.%20%20Version%203.1%20-%20amendment%2013.10.2017.%20PDF..PDF
Solent Maritime SAC	Estuaries, spartina swards *Spartinion maritimae*, Atlantic salt meadows *Glauco-Puccinellietalia maritimae*, Sandbanks which are slightly covered by sea water all the time, mudflats and sandflats not covered by seawater at low tide, Salicornia and other annuals colonizing mud and sand, coastal lagoons (*Priority feature), and annual vegetation of drift lines.	http://publications.naturalengland.org.uk/file/5064469629632512	http://publications.naturalengland.org.uk/file/5336347464433664

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South Wight Maritime SAC	Reefs, submerged or partially submerged sea caves, and vegetated sea cliffs of the Atlantic and Baltic coasts.	http://publications.naturalengland.org.uk/file/6190369536475136	http://publications.naturalengland.org.uk/file/6148389549113344
Southern North Sea SAC	*Phocoena phocoena*	N/A	https://data.jncc.gov.uk/data/206f2222-5c2b-4312-99ba-d59dfd1dec1d/SouthernNorthSea-conservation-advice.pdf
Start Point to Plymouth Sound & Eddystone SAC	Reefs	N/A	http://publications.naturalengland.org.uk/file/4806652369043456
Thanet Coast SAC	Reefs, *and* submerged or partially submerged sea caves.	http://publications.naturalengland.org.uk/file/5125561445777408	http://publications.naturalengland.org.uk/file/6034862557626368
The Wash and North Norfolk Coast SAC	Sandbanks which are slightly covered by sea water all the time, mudflats and sandflats not covered by seawater at low tide, large shallow inlets and bays, reefs, Salicornia and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), coastal lagoons, Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*), Otter (*Lutra lutra*), and harbour seal (*Phoca vitulina*).	http://publications.naturalengland.org.uk/file/5068730392379392	http://publications.naturalengland.org.uk/file/5213489320951808
West Wales Marine / Gorllewin Cymru Forol SAC	Harbour porpoise *(Phocoena phocoena)*	N/A	https://naturalresourceswales.gov.uk/media/681439/w-wales-marine-objectives-advice.pdf
Benacre to Easton Bavents Lagoons SAC	Benacre to Easton Bavents Lagoons is a series of percolation lagoons on the east coast of England. The lagoons (the Denes, Benacre Broad, Covehithe Broad and Easton Broad) have formed behind shingle barriers and are a feature of a geomorphologically dynamic system. Sea water enters the lagoons	https://sac.jncc.gov.uk/site/UK0013104	http://publications.naturalengland.org.uk/file/5222146070806528

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	by percolation through the barriers, or by overtopping them during storms and high spring tides. The lagoons show a wide range of salinities, from nearly fully saline in South Pool, the Denes, to extremely low salinity at Easton Broad. This range of salinity has resulted in a series of lagoonal vegetation types, including beds of narrow-leaved eelgrass *Zostera angustifolia* in fully saline or hypersaline conditions, beds of spiral tasselweed *Ruppia cirrhosa* in brackish water, and dense beds of common reed *Phragmites australis* in freshwater. The site supports a number of specialist lagoonal species.		http://publications.naturalengland.org.uk/file/5503127986110464
Benfleet and Southend Marshes SPA	*Branta bernicla bernicla, Calidris alpina alpina, Calidris canutus, Charadrius hiaticula, Pluvialis squatarola*, and waterfowl assemblage.	http://publications.naturalengland.org.uk/file/6270173254254592	http://publications.naturalengland.org.uk/file/4710112552026112
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA	*Aythya farina, Branta bernicla bernicla, Calidris alpina alpina, Charadrius hiaticula, Charadrius hiaticula, Circus cyaneus, Limosa limosa islandica, Pluvialis squatarola, Sterna albifrons,* and waterfowl assemblage.	http://publications.naturalengland.org.uk/file/6439137804550144	http://publications.naturalengland.org.uk/file/4772007141179392
Breydon Water SPA	*Cygnus columbianus bewickii, Philomachus pugnax; Pluvialis apricaria*, *Recurvirostra avosetta, Sterna hirundo*, *Vanellus vanellus*, and waterfowl assemblage.	http://publications.naturalengland.org.uk/file/6031456824459264	http://publications.naturalengland.org.uk/file/4822248376762368
Chichester and Langstone Harbours SPA	*Anas acuta*, *Anas clypeata*, *Anas crecca*, *Anas Penelope*, *Arenaria interpres*, *Branta bernicla bernicla*, *Calidris alba*, *Calidris alpina alpina*, *Charadrius hiaticula*, *Limosa lapponica*, *Mergus serrator Numenius arquata*, *Pluvialis squatarola*, *Sterna albifrons*, *Sterna hirundo* Sterna sandvicensis, Tadorna tadorna, Tringa totanus, and waterfowl assemblage.	http://publications.naturalengland.org.uk/file/6544101247811584	http://publications.naturalengland.org.uk/file/4661175359111168
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA	*Branta bernicla bernicla*, and waterbird assemblage.	http://publications.naturalengland.org.uk/file/5367340049104896	http://publications.naturalengland.org.uk/file/6067995655012352

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Dengie (Mid-Essex Coast Phase 1) SPA	*Branta bernicla bernicla, Calidris canutus, Circus cyaneus, Pluvialis squatarola,* and waterfowl assemblage.	http://publications.naturalengland.org.uk/file/4584164514856960	http://publications.naturalengland.org.uk/file/6271138279981056
Falmouth Bay to St. Austell Bay SPA	*Gavia arctica, Gavia immer,* and *Podiceps auratus.*	http://publications.naturalengland.org.uk/file/5458680861949952	http://publications.naturalengland.org.uk/file/6409515281154048
Flamborough & Filey Coast SPA	*Alca torda*, *Morus bassanus*, *Rissa tridactyla*, *Uria aalge*, and seabird assemblage.	http://publications.naturalengland.org.uk/file/4690761199386624	http://publications.naturalengland.org.uk/file/6055638698557440
Foulness (Mid-Essex Coast Phase 5) SPA	*Branta bernicla bernicla*, *Calidris canutus*, *Charadrius hiaticula*, *Circus cyaneus*, *Haematopus ostralegus*, *Limosa lapponica*, *Pluvialis squatarola*, *Recurvirostra avosetta*, *Sterna albifrons*, *Sterna hirundo*, *Sterna sandvicensis*, *Tringa totanus*, and waterfowl assemblage.	http://publications.naturalengland.org.uk/file/5461169120739328	http://publications.naturalengland.org.uk/file/6519660187222016
Gibraltar Point SPA	*Calidris alba*, *Limosa lapponica*, *Pluvialis squatarola,* and *Sterna albifrons.*	http://publications.naturalengland.org.uk/file/5182717482237952	http://publications.naturalengland.org.uk/file/6182824961114112
Grassholm SPA	*Morus bassanus*	https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9014041.pdf	N/A
Great Yarmouth North Denes SPA	*Sterna albifrons*	https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9009271.pdf	http://publications.naturalengland.org.uk/file/6450939770961920
Greater Wash SPA	*Gavia stellata*, *Larus minutus*, *Melanitta nigra*, *Sterna albifrons*, *Sterna hirundo;* and *Sterna sandvicensis.*	http://publications.naturalengland.org.uk/file/6567930578075648	http://publications.naturalengland.org.uk/file/4597105251581952
Humber Estuary SPA	*Anas crecca, Anas Penelope, Anas platyrhynchos, Arenaria interpres, Aythya farina, Aythya marila Botaurus stellari Branta bernicla bernicla, Bucephala clangula,Calidris alba, Calidris alpina alpina, Calidris canutu, Charadrius hiaticula, Charadrius hiaticula, Circus aeruginosus, Circus cyaneus, Haematopus ostralegus, Limosa lapponica, Limosa limosa islandica, Numenius arquata, Numenius*	http://publications.naturalengland.org.uk/file/4968674834251776	http://publications.naturalengland.org.uk/file/5874535631159296

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	phaeopus, Philomachus pugnax, Pluvialis apricaria, Pluvialis squatarola, Recurvirostra avosetta, Sterna albifrons, Tadorna tadorna, Tringa nebularia, Tringa totanus, Vanellus vanellus, and waterfowl assemblage		
North Norfolk Coast SPA	*Anas penelope; Anser brachyrhynchus; Botaurus stellaris; Branta bernicla bernicla; Calidris canutus; Circus aeruginosus; Recurvirostra avosetta; Sterna albifrons; Sterna hirundo;* and *Sterna sandvicensis.*	http://publications.naturalengland.org.uk/file/4548204783730688	http://publications.naturalengland.org.uk/file/4744900111499264
Medway Estuary and Marshes SPA	*Anas acuta, Anas clypeata, Anas crecca, Anas penelope, Anas platyrhynchos, Arenaria interpres, Aythya farina, Branta bernicla bernicla, Calidris alpina alpina, Calidris canutus, Charadrius hiaticula, Circus cyaneus, Cygnus columbianus bewickii, Falco columbarius, Gavia stellata, Haematopus ostralegus, Limosa limosa islandica, Numenius arquata, Phalacrocorax carbo, Pluvialis squatarola, Podiceps cristatus, Recurvirostra avosetta, Recurvirostra avosetta, Sterna albifrons, Sterna hirundo, Tadorna tadorna, Tringa nebularia,* and *Tringa totanus.*	http://publications.naturalengland.org.uk/file/5039453273849856	http://publications.naturalengland.org.uk/file/5579733639364608
Northumbria Coast SPA	*Arearia interpres, Caldris maritima, Sterna albifrons, Sterna paradiaea*	https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9006131.pdf	http://publications.naturalengland.org.uk/file/5211071631851520
Outer Thames Estuary SPA	*Gavia stellata, Sterna albifrons,* and *Sterna hirundo*	http://publications.naturalengland.org.uk/file/5459831745413120	http://publications.naturalengland.org.uk/file/5184120712069120
Portsmouth Harbour SPA	*Branta bernicla bernicla, Calidris alpina alpina, Limosa limosa islandica,* and *Mergus serrator.*	http://publications.naturalengland.org.uk/file/5971306340155392	http://publications.naturalengland.org.uk/file/4859370047537152
Rathlin Island SPA	*Alca torda, Falco peregrinus, Rissa tridactyla, Uria aalge,* and seabird assemblage.	https://www.daera-ni.gov.uk/sites/default/files/publications/doe/Rathlin%20SPA%20Citation%20document%20and%20map.pdf	https://www.daera-ni.gov.uk/sites/default/files/publications/doe/rathlin-spa-conservation-objectives-2015.pdf

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Sandlings SPA	*Caprimulgus europaeus, Lullula arborea*	https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9020286.pdf	http://publications.naturalengland.org.uk/file/6246575764668416 http://publications.naturalengland.org.uk/file/5201677619822592
Sheep Island SPA	*Phalacrocorax carbo*	https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9020021.pdf	https://www.daera-ni.gov.uk/sites/default/files/publications/doe/sheep-island-spa-conservation-objectives-2015.pdf
Solent & Southampton Water SPA	*Anas crecca, Branta bernicla bernicla, Charadrius hiaticula, Larus melanocephalus, Limosa limosa islandica, Sterna albifrons, Sterna dougallii, Sterna hirundo, Sterna sandvicensis,* and waterfowl assemblage	http://publications.naturalengland.org.uk/file/6224743971684352	http://publications.naturalengland.org.uk/file/5932771361161216
Tamar Estuaries Complex SPA	*Egretta garzetta;* and *Recurvirostra avosetta.*	http://publications.naturalengland.org.uk/file/6476982804021248	http://publications.naturalengland.org.uk/file/5407902819155968
Teesmouth and Cleaveland Coast SPA	*Calidris canutus, Philomachus pugnax, Recurvirostra avosetta, Sterna albifrons, Sterna hirundo, Sterna sandvicensis, Tringa totanus;* and waterbird assemblage	http://publications.naturalengland.org.uk/file/5918712406212608 (archived) and http://publications.naturalengland.org.uk/file/4903947418730496 (updated)	http://publications.naturalengland.org.uk/file/4849489020190720
Thames Estuary and Marshes SPA	*Calidris alpina alpina, Calidris canutus, Charadrius hiaticula, Circus cyaneus, Limosa limosa islandica, Pluvialis squatarola, Recurvirostra avosetta, Tringa totanus,* and waterfowl assemblage	http://publications.naturalengland.org.uk/file/6583903435358208	http://publications.naturalengland.org.uk/file/6393717116370944

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Thanet Coast and Sandwich Bay SPA	*Arenaria interpres, Pluvialis apricaria,* and *Sterna albifrons.*	http://publications.naturalengland.org.uk/file/6175094149742592	http://publications.naturalengland.org.uk/file/5852964510236672
The Swale SPA	*Anas crecca, Anas strepera, Branta bernicla bernicla; Calidris alpina alpina; Charadrius hiaticula, Haematopus ostralegus; Numenius arquata, Pluvialis squatarola; Tringa totanus,* breeding bird assemblage, and waterfowl assemblage.	http://publications.naturalengland.org.uk/file/4517156041523200	http://publications.naturalengland.org.uk/file/4666133965963264
The Wash SPA	*Anas acuta, Anas Penelope, Anas strepera, Anser brachyrhynchus, Arenaria interpres, Branta bernicla bernicla, Bucephala clangula, Calidris alba, Calidris alpina alpina, Calidris canutus, Cygnus columbianus bewickii, Haematopus ostralegus, Limosa lapponica, Limosa limosa islandica, Melanitta nigra, Numenius arquata, Pluvialis squatarola, Sterna albifrons, Sterna hirundo, Tadorna tadorna, A162 Tringa totanus;* and waterfowl assemblage	http://publications.naturalengland.org.uk/file/5834437967216640	http://publications.naturalengland.org.uk/file/4748062010638336