Muir Mhòr Offshore Wind Farm

Habitats Regulations Appraisal: Offshore HRA Screening Report

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Offshore Habitats Regulations Appraisal (HRA) Screening Report

Muir Mhòr Offshore Wind Farm

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MUIR MHÒR
OFFSHORE WIND FARM

A joint venture between Fred. Olsen Seawind & Vattenfall

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GLOSSARY

Term	Definition
Array area	The area in which the generation infrastructure will be located, including turbines and associated foundations, inter-array/interconnector cables and Offshore Electrical Platforms.
Biologically Defined Minimum Population Scales (BDMPS)	BDMPS uses data on the demography of seabirds (survival rates, age of first breeding, productivity) to model population age structure to assess the numbers of immature birds that are associated with breeding populations, since it is not normally possible to census immature components of seabird populations.
Birds of Conservation Concern (BoCC)	The list of BoCC is assessed based on the most up-to-date evidence available. Criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution, and international importance.
Developer	Muir Mhòr Offshore Wind Farm Limited.
Foundations	The foundations on which the wind turbine generators or Offshore Electrical Platform(s) are installed.
Habitats Regulations	The Conservation (Natural Habitats, &c.) Regulations 1994, the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species 2017.
In-combination assessment	The quantification and evaluation of potential effects that may occur between the proposed development and other plans or projects on European site(s).
Inter-array cables	Cables which link the wind turbines generators to each other and the Offshore Electrical Platform(s).
Interconnector cables	Cables which link Offshore Electrical Platforms to one another.
Landfall	The area above Mean Low Water Springs (MLWS) where the offshore export cable(s) will be brought onshore.
Likely Significant Effect (LSE)	The screening exercise or result that determines if the proposed development “would be likely to have a significant effect” on a European site (as per the Habitats Regulations) .
Offshore Electrical Platform (OEPs)	Offshore platforms potentially consisting of a combination of High Voltage Alternating Current (HVAC) substations, High Voltage Direct Current (HVDC) converter stations and/or a combined HVAC/HVDC substation depending on the final electrical set up of the Project.
Offshore Export Cable Corridor (ECC)	The area within which the offshore export cable(s) will be installed.
Offshore export cable(s)	The subsea electricity cable(s) running from the Offshore Electrical Platform(s) to the landfall which transmit the electricity generated by the offshore wind farm to the onshore export cable(s) for transmission onwards to the onshore substation and the national electrical transmission system.
Offshore transmission infrastructure	The proposed transmission infrastructure comprising: Offshore Electrical Platform(s) and associated foundations and substructures; the offshore export cable(s); and the landfall area up to Mean High Water Springs (MHWS).
Project	Muir Mhòr Offshore Wind Farm – comprises the wind farm and all associated offshore and onshore components.

Term	Definition
Proposed development	The offshore Muir Mhòr Offshore Wind Farm project elements to which this Offshore HRA Screening Report relates.
Wind Turbine Generator (WTG)	The wind turbines that generate electricity consisting of tubular towers and blades attached to a nacelle housing mechanical and electrical generating equipment.

ACRONYMS & ABBREVIATIONS:

Term	Definition
AA	Appropriate Assessment
BDMPS	Biologically Defined Minimum Population Scales
BoCC	Birds of Conservation Concern
BTO	British Trust for Ornithology
CES	Crown Estate Scotland
CI	Confidence Interval
CJEU	Court of Justice of the European Union
cSAC	candidate Special Area of Conservation
CV	Coefficient of Variation
DAS	Digital Aerial Survey
DDV	Drop-Down Video
DECC	Department of Energy and Climate Change
DTA	David Tyldesley Associates
EC	European Commission
ECC	Export Cable Channel
ECOMMAS	East Coast Marine Mammal Acoustic Study
EDR	Effective Deterrence Range
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMEC	The European Marine Energy Centre
EMF	Electromagnetic Fields
EOWDC	European Offshore Wind Deployment Centre
ES	Environmental Statement
EU	European Union
EUNIS	European Nature Information System
FCS	Favourable Conservation Status

Term	Definition
FPSO	Floating Production Storage and Offloading
GNS	Greater North Sea
GW	Gigawatt
HRA	Habitats Regulations Appraisal
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IAMMWG	Inter-Agency Marine Mammal Working Group
ICES	International Council for the Exploration of the Sea
INNS	Invasive Non-Native Species
IROPI	Imperative Reasons of Overriding Public Interest
IUCN	International Union for the Conservation of Nature
JNCC	Joint Nature Conservation Committee
LAT	Lowest Astronomical Tide
LSE	Likely Significant Effect
MHWS	Mean High Water Springs
MPA	Marine Protected Area
MPI	Multi-Purpose Interconnector
MS-LOT	Marine Scotland Licensing Operations Team
MSL	Mean Sea Level
MU	Management Unit
MW	Mega Watt
NCMPA	Nature Conservation Marine Protected Area
NMPi	National Marine Plan Interactive
OWF	Offshore Wind Farm
PCH	Potential Collision Height
PIO	Plans for Installation and Operation
PMF	Priority Marine Features

Term	Definition
PSA	Particle Size Analysis
pSAC	possible Special Area of Conservation
pSPA	potential Special Protection Area
RIAA	Report to Inform Appropriate Assessment
SAC	Special Area of Conservation
SBZ	Speciale Beschermingszone
SCA	Seascape Character Area
SCANS	Small Cetaceans in European Atlantic Water
SCI	Site of Community Importance
SCOS	Special Committee on Seals
SMP	Sectoral Marine Plan
SMRU	Sea Mammal Research Unit
SMU	Seal Management Unit
SNCB	Statutory Nature Conservation Bodies
SNH	Scottish Natural Heritage
SNS	Southern North Sea
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
UXO	Unexploded Ordnance
VWP	Vattenfall Windpower Ltd
WeBS	Wetland Bird Survey
WTG	Wind Turbine Generator
WWT	Wildfowl and Wetlands Trust

1 Introduction

1.1 Background

1.1.1 In response to the Scottish Government's target of net-zero emissions of all greenhouse gases by 2045 and the aim to generate 50% of Scotland's overall energy consumption from renewable sources by 2030, the Crown Estate Scotland (CES) launched the ScotWind Leasing process in 2021, which released new areas of seabed within Scottish waters for future offshore development. The ambition was to offer 10 gigawatts (GW) of offshore capacity within a series of Plan Options (POs), identified by the Scottish Government as the most suitable areas for development as set out within the Sectoral Marine Plan for Offshore Wind.

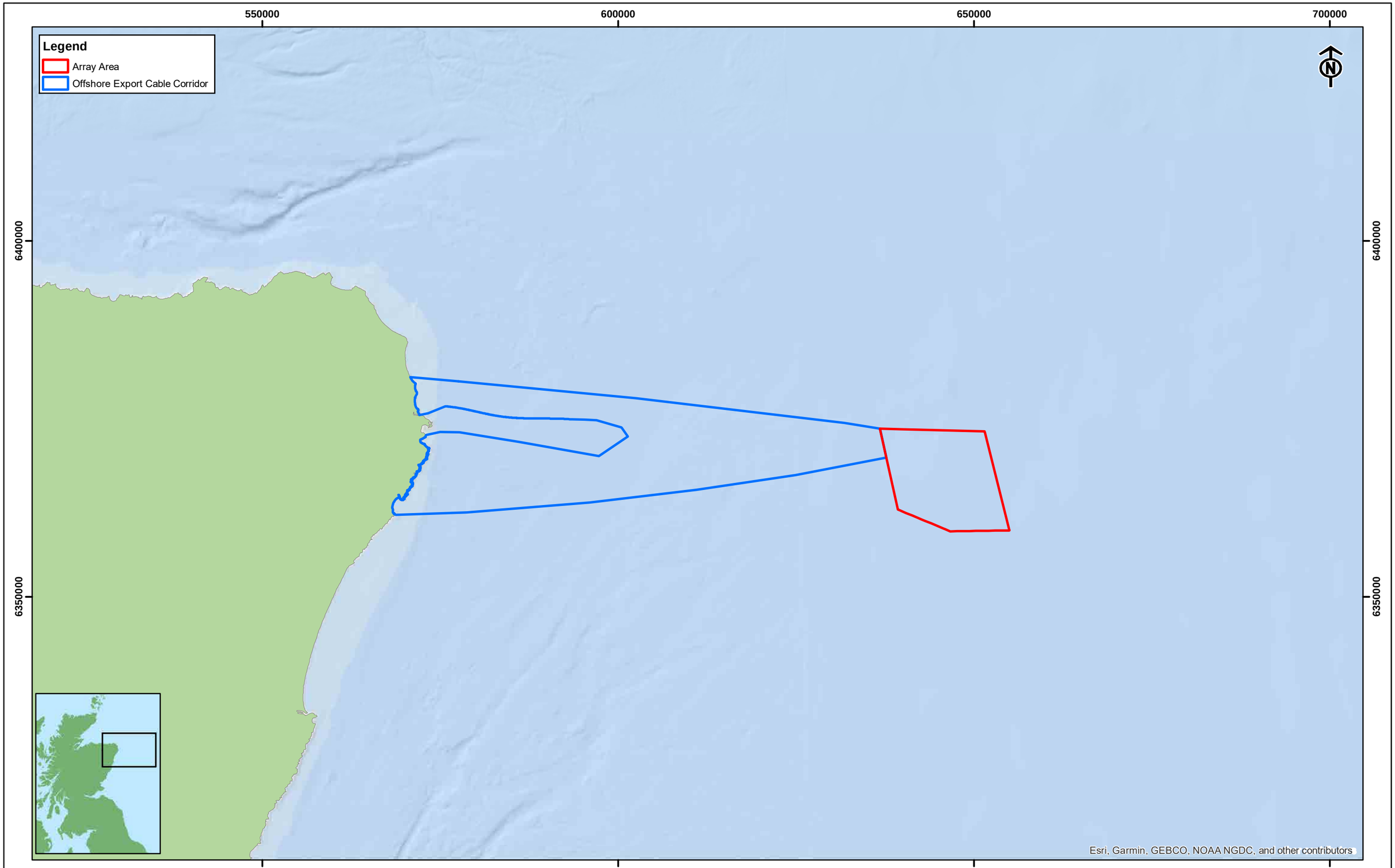
1.1.2 As part of the CES ScotWind Leasing process in January 2022, Muir Mhòr Offshore Wind Farm Limited (a joint venture (JV) between Fred. Olsen Seawind Limited and Vattenfall Windpower Ltd (VWP) - hereafter the Developer, were identified as the successful bidder and awarded an Option Agreement (granting exclusive rights) for what the Developer has named the Muir Mhòr Offshore Wind Farm (OWF) (hereafter 'the Project'), located within the E2 PO area. The Muir Mhòr array area covers an area of approximately 200 km^2 and is located approximately 63 km east of Peterhead on the east coast of Scotland. (Figure 1.1). The Project is anticipated to have a capacity of approximately 1GW comprising floating offshore wind technology. The Terms of the Agreement are dependent upon the Developer being awarded all key consents and permissions to construct and operate the OWF from the relevant regulatory authorities.

1.1.3 The offshore infrastructure of the proposed development includes the proposed generation infrastructure, comprising wind turbine generators (WTGs) and associated floating foundations, the Offshore Electrical Platforms (OEPs) and associated foundations, the inter-array cables, offshore export cables and required works at landfall. The relevant aspects of the indicative offshore design envelope for the proposed development are provided in Table 1.1.

Table 1.1: Indicative offshore design envelope of the proposed development.

Design Parameter	Maximum Design Scenario
Number of WTGs	≤ 67
Blade Tip Clearance [to Mean Sea Level (MSL)]	≥ 30 m
Hub Height [to MSL]	≥ 195 m
Rotor Diameter	≥ 300 m
Spacing between WTGs	≥ 1000 m
WTG Foundation Types	Semi-Submersible Barge Tension-Leg Platform Multi Tower Semi-Submersible Buoy Spar Semi-Spar

Design Parameter	Maximum Design Scenario
Number of Export Cables [HVAC]	≤ 3
Number of Export Cables [HVDC]	≤ 2
Export Cable System Voltage [HVAC]	≤ 275 kV
Export Cable System Voltage [HVDC]	≤ 320 kV
Total Length of Export Cable [HVAC]	≤ 120 km per cable, ≤ 360 km total
Total Length of Export Cable [HVDC]	≤ 120 km per cable, ≤ 240 km total
Length of Inter-Array Cables	Up to 250 km
Inter-Array Cable Voltage	≤ 132 kV
Number of OEPs [HVAC]	1-2
Topside length [HVAC]	≤ 60 m
Topside Width [HVAC]	≤ 50 m
Topside Height Above HAT (excluding crane antennas & helideck) [HVAC]	≤ 60 m
Number of OEPs [HVDC]	2
Topside length [HVDC]	≤ 60 m
Topside Width [HVDC]	≤ 70 m
Topside Height Above HAT (excluding crane antennas & helideck) [HVDC]	≤ 60 m
OEP Foundation Types	Piled Jacket Suction Caisson Jacket Gravity Base Piled Subsea OEP



This drawing/map has been produced to the latest known information at the time of issue. Please consult with the Vattenfall GIS team to ensure the content is still current before using the information contained on this map.

MUIR MHÒR OFFSHORE WIND FARM

A joint venture between Fred. Olsen Seawind & Vattenfall

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Rev	Date	Drawn By	Checked By	Comment
A	02/05/23	BPHB	LK	First Issue

Datum	ETRS 1989
Projection	ETRS 1989 UTM Zone 30N
Plot	A3
Scale	1:500,000

0 4 8 12 16 20 km

MUIR MHÒR WIND FARM

Location of Proposed Development

Confidentiality Class	C1
Drg No	GoBe-0043
Rev	A
Layout	NA

Figure 1.1

Ref files: MMH_HRA_Fig1.1_ProposedDevelopment_RevA

1.2 The Developer

1.2.1 As noted above, the Developer (Muir Mhòr Offshore Wind Farm Limited) is a JV between Fred. Olsen Seawind Limited and Vattenfall Wind Power Limited. The Developer brings together a unique combination of financial, technical and project development capability, a commitment to delivery, and a clear vision for the Project.

1.2.2 Fred. Olsen Seawind Limited is an established offshore wind developer building on Fred. Olsen Renewables' 25 years wind track record, market presence and portfolio. In 2021, the Fred. Olsen Renewables offshore wind assets and activity was organised within a distinct corporate structure in Fred. Olsen Seawind AS and is 100% controlled by Bonheur ASA. Fred. Olsen has extensive experience in Scotland gained through over 25 years of development, construction, and operation of onshore wind in the region. Fred. Olsen Seawind is active in Ireland, Norway and Scotland and is exploring opportunities in new markets.

1.2.3 Other entities include Fred. Olsen WindCarrier, who are responsible for the installation of 20% of the world's offshore wind turbines outside of China, and Fred. Olsen 1848 who develop and commercialise renewable energy innovations.

1.2.4 Vattenfall is one of Europe's largest producers and retailers of electricity and heat with approximately 20,000 employees. VWP has been working in the UK for more than ten years, developing fossil fuel-free energy projects. Vattenfall have grown their wind business from one project in 2008 to 11 in 2023. VWP also continue to grow district heating and power networks businesses. VWP currently operates more than 1 GW of wind energy capacity in the UK. In Scotland, their operational wind farms comprise a total generating capacity of 175 megawatt (MW), powering over 130,000 homes. This includes the 96.8 MW European Offshore Wind Deployment Centre in Aberdeen Bay which offers the domestic supply chain the chance to test and demonstrate the latest innovations in a real-world environment. Vattenfall is also constructing South Kyle, a 240 MW onshore wind project in south-west Scotland.

1.2.5 The Developer therefore intends to apply for the relevant consents and permissions required to enable construction, operation and maintenance (O&M) and decommissioning of the Project. The Developer is being supported by GoBe Consultants Limited regards the delivery of the offshore Habitats Regulations Appraisal (HRA) aspects of the Project, with assistance from Land Use Consultants Ltd (LUC) for the onshore HRA and consent aspects.

1.3 Purpose of the Report

1.3.1 The purpose of this Offshore HRA Screening Report is to inform the HRA process for the proposed development and support the consenting process required under the Habitats Regulations:

- Conservation (Natural Habitats &c.) Regulations 1994;
- Conservation of Habitats and Species Regulations 2017; and
- Conservation of Offshore Marine Habitats and Species Regulations 2017.

1.3.2 The report provides information to enable the screening of the offshore elements associated with the Project (known as the proposed development). This involves identifying the potential for likely significant effect (LSE) between the proposed development and European designated sites and only screening out sites/ features where clear and unambiguous certainty of no LSE exists. For the purposes of this report "European sites" include UK designated sites within the National Site Network, European protected sites, and Ramsar sites of nature conservation importance. European sites must be considered either alone or in-combination with other plans

or projects. This step in the process and associated reporting requirements are further described in the following sections.

1.3.3 The assessment provided in this report is based on the current understanding of the existing baseline environment, as well as the current proposed scope and nature of the proposed development. Baseline characterisation has been completed through the review of information associated with the proposed development, desk-based information from other relevant projects (including project specific surveys from Moray West, Moray East and Beatrice OWFs) and site-specific/other regional information currently available.

1.3.4 As the design parameters, including the final boundaries of the offshore Export Cable Corridor (ECC) and preferred landfall site are refined, and as ongoing baseline site-specific and regional level environmental surveys are completed and analysed, ongoing consultation will take place with respect to the assessment of the potential for LSE on European/Ramsar sites. This will inform any future Report to Inform Appropriate Assessment (RIAA).

1.3.5 It is anticipated that a review of the Scoping Opinion, as well as the project level engagement with the ongoing iterative plan review associated with the SMP for Offshore Wind (Scottish Government, 2020b), will also aid with identifying further requirements of the RIAA (although noting these processes sit outside of, and are separate to, the requirements of the Habitats Regulations for the consent applications for the proposed development). The Developer has also opened discussion with other ScotWind developers in the East Region through the East Region Ornithology Group. The objective of this group is to collectively engage with the key stakeholders to understand the requirements of developers in assisting in the provision of evidence to inform the SMP, in turn influencing the RIAA. Any additional consultation for the proposed development will be recorded and implemented where relevant.

1.3.6 Given the early stage of the proposed development, with further site-specific investigations and environmental survey/assessment work and ongoing statutory and non-statutory consultation, this assessment will continue to evolve over time and any changes will be captured and incorporated within the RIAA that will be submitted with the consent applications.

1.3.7 With regards to the requirement for onshore HRA, and in addition to an assessment of potential effects on protected features of European Sites within the EIA context, an HRA Screening exercise will be undertaken at an early stage. In consultation with NatureScot, consideration will be given to the pathways for potential LSE on structurally or functionally connected European Sites. Where LSEs are identified, a RIAA will be provided alongside the planning application. The RIAA will inform the Competent Authority's own HRA obligations.

2 The HRA Process

2.1 Legislative Context

Habitats Directive and Habitats Regulations

2.1.1 A network of protected areas for specific habitats and species of importance (known as European sites) has been established by European Union (EU) member states under the Habitats and Birds Directives (Council Directive 92/43/EEC and Directive 2009/147/EC). In Scotland, these are implemented through the Conservation (Natural Habitats &c.) Regulations 1994, the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (together hereinafter referred to as the Habitats Regulations). The four-stage process of determining the absence of adverse effects on European sites under the Habitats Directives/Regulations is known as an HRA.

2.1.2 The relevant sections of the Habitats Directive are Articles 6(3) and 6(4) (as implemented in Scottish waters by the Habitats Regulations). Under Article 6(3) of the Habitats Directive, an Appropriate Assessment (AA) is required where a plan or project is likely to have a significant effect upon a European site either individually or in combination with other plans or projects. European sites include the following:

- Special Areas of Conservation (SACs) designated under the Habitats Directive for their habitats and/or species (except birds) of European importance plus candidate SACs (cSACs) and Sites of Community Importance (SCIs);
- Special Protection Areas (SPAs) designated under the Birds Directive for rare, vulnerable, and regularly occurring migratory bird species and internationally important wetlands; and
- Ramsar sites designated under The Convention on Wetlands.

2.1.3 The Habitats Regulations specify, amongst other issues, how development control decisions which could directly or indirectly affect European sites are to be reached. Article 6(3) of the Habitats Directive (92/43/EEC) states:

> *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives".*

2.1.4 It is therefore necessary, in the first instance, to determine whether it is possible to conclude that there is no LSE on the site. Only where it is not possible to conclude this, does an AA need to be carried out by the competent authority. The European Court of Justice ruling in the case of Waddenzee (Case C-127/02), stated that an AA of a project is necessary "if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site". It is therefore clear that if it cannot be objectively ruled out, then an effect is likely. The test is therefore negative and embeds precaution within it.

2.1.5 The Habitats Regulations require that a competent authority shall make an AA before any decision to give consent for any plan or project that is not directly connected with or necessary to the (conservation) management of a European site and which could likely have a significant effect on that site (either alone or in combination with other known plans or projects). An AA is therefore required for all plans or projects 'likely to have a significant effect' on a European site in view of the conservation objectives of the European site. The competent authority can only agree to the plan or project having ascertained that it will not adversely affect the integrity of the European site. To ascertain this, the competent authority must give regard to the manner

in which the plan or project is proposed to be carried out or to any conditions or restrictions proposed for the consent or permission.

2.1.6 As the proposed development is not directly connected with or necessary to the management of a European site, an HRA is required.

Post-EU Exit Amendments

2.1.7 The UK withdrew from the EU in January 2020, and since the beginning of January 2021, the UK is no longer bound by EU legislation; however, The Scottish Parliament and the UK passed recent EU-Exit legislation to ensure that Scotland's nature remains protected to at least the same standard as EU environmental standards with a further longer-term ambition to exceed these. This did result in some aspects of the Habitats Regulations being amended in Scotland, but these amendments were only to those necessary to ensure that the Habitats Regulations remained operable and to ensure that the requirements of the Habitats and Birds Directives must continue to apply to how European sites are designated and protected.

2.1.8 The amendments to the Habitats Regulations are summarised within 'EU Exit: The Habitats Regulations in Scotland' (Scottish Government, 2020c) and include:

- European sites in the UK are no longer part of the EU's Natura 2000 network. Instead, they form a UK-wide network of protected sites, referred to as the “national site network” (although the 1994 Regulations use the term “UK site network”) and they retain the same protections;
- Management objectives are established for the national site network. For such sites in Scotland (including those in Scotland's inshore and offshore waters), the Scottish Ministers must work in co-operation with the other UK administrations to manage, and where necessary, adapt the National Site Network to contribute to the achievement of these objectives;
- The objectives in relation to the National Site Network are to:
  - Maintain or restore certain habitats and species listed in the Habitats Directive to favourable conservation status (FCS); and
  - Contribute to ensuring the survival and reproduction of certain species of wild bird in their area of distribution and to maintaining their populations at levels which correspond to ecological, scientific, and cultural requirements, while taking account of economic and recreational requirements;
- European marine sites and European offshore marine sites continue to contribute to Scotland's Marine Protected Area (MPA) network. The network also includes Nature Conservation MPAs, Sites of Special Scientific Interest (SSSIs) and Ramsar sites;
- The European Commission no longer plays a role in the designation process, or provision of opinion in certain circumstances on whether there were Imperative Reasons of Overriding Public Interest (IROPI) for granting consent for a plan or project despite a competent authority being unable (following completion of an HRA) to ascertain no adverse effect on site integrity. This now all falls under the remit of the Scottish Ministers (for sites in Scotland), with advice from NatureScot and the Joint Nature Conservation Committee (JNCC).

2.2 The HRA Stages

2.2.1 The European Commission's guidance on Planning for the Protection of European Sites: Appropriate Assessment (European Commission, 2001) identifies a staged process to the assessment of the effects of plans or projects on European sites. Cumulatively, these stages are referred to as an HRA, to clearly distinguish the whole process from the second stage within it, which is referred to as AA.

2.2.2 There are potentially up to four HRA stages:

- Stage 1: Screening;
- Stage 2: AA;
- Stage 3: Consideration of Alternative Solutions; and
- Stage 4: Assessment of IROPI.

2.2.3 Each stage (except the last) defines the requirement for and scope of the next. This Offshore Screening Report comprises HRA Stage 1, where the identification of LSE is reported. Within Scottish Natural Heritage (SNH) guidance (David Tyldesley Associates (DTA), 2015) paragraph 4.3 defines LSE as 'one that cannot be ruled out based on objective information. The test is a 'likelihood' of effects rather than a 'certainty' of effects'. LSE should therefore 'not simply be interpreted as 'probable' or 'more likely than not', but rather 'whether a significant effect can objectively be ruled out'. The HRA process is applied to both effects from the project alone (Section 5) and 'in-combination' with other plans and projects (Section 6).

2.2.4 If, based on the best scientific information available, potential for an LSE to a European site(s) cannot be discounted, then an AA of the effect-pathway(s) to the site is required at HRA Stage 2, where the implications for European site integrity are considered. Importantly, mitigation measures cannot be considered at HRA Stage 1; however, such measures are an integral element of the assessment at HRA Stage 2.

2.2.5 The latter stages become relevant if the AA cannot exclude an adverse effect on site integrity. These stages will be addressed in the event there is a negative outcome to HRA Stage 2 (AA).

2.2.6 Key guidance documents that have been used to inform this Offshore Screening Report include:

- SNH (2000). Natura Casework Guidance: Consideration of Proposals affecting SPA and SAC. Guidance Note Series;
- SNH Guidance Note (undated). The handling of mitigation in Habitats Regulations Appraisal – the People Over Wind Court of Justice of the European Union (CJEU) judgement;
- Department of Energy and Climate Change (DECC) (2016). Guidance on when new marine Natura 2000 sites should be considered in offshore renewable energy consents and licences. May 2016;
- European Commission. (2001). Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC. November 2001;
- DTA (2021a). The Habitat Regulations Assessment Handbook. https://www.dtapublications.co.uk/; and
- DTA (2021b). Advice to Marine Scotland. Policy Guidance Document on demonstrating the absence of Alternative Solutions and IROPI under the Habitats Regulations for Marine Scotland. November 2021. Draft for Comment.

3 Environmental Baseline

3.1 Introduction

3.1.1 This section provides an overview of the environmental characteristics relevant to the receptors under consideration as part of the HRA screening process, specifically:

- Benthic subtidal and intertidal ecology;
- Marine mammals;
- Offshore and intertidal ornithology; and
- Migratory fish.

3.1.2 The baseline information presented is relevant to the determination of no LSE for the Muir Mhòr array area, the offshore ECC and the landfall location (Figure 1.1). The baseline discussed is also relevant to the wider search area considered for the screening process, as defined by the receptor specific screening distances described within Section 4). It is intended to provide information to inform this HRA screening exercise (Stage 1). A more exhaustive review of baseline data will be completed to inform any subsequent Stage 2 assessments as required. Where site-specific information is available (or planned), this is highlighted.

3.2 Benthic Subtidal and Intertidal Ecology

Existing Data Sources

3.2.1 The following datasets provide the existing baseline for benthic subtidal and intertidal ecology:

- Existing OWF data and reports (e.g., Hywind Scotland Pilot, Beatrice, Moray West, Moray East);
- European Marine Observation and Data Network (EMODnet) broad scale seabed habitat map for Europe (EUSeaMap) (2021);
- European Nature Information System (EUNIS) 2019 habitat types (EMODnet, 2021);
- Cefas OneBenthic Baseline Tool. (Cefas, 2017); and
- MPA network (SPAs, SSSIs, MPAs, SACs). Scottish Government, 2018.

Site Specific Surveys

3.2.2 Benthic site-specific surveys will be undertaken following the geophysical survey outputs. These outputs will be used to inform the location of the benthic ground-truthing survey campaign to get a representative spread of samples across the seabed features identified, as well as targeting any potential conservation features to understand location and extent. The layout of the benthic survey campaign will also be informed by pre-existing broadscale habitat mapping. Grab samples and drop-down video (DDV) surveillance will be used to characterise the Muir Mhòr array area and offshore ECC. Samples will be used to classify the sediment type present across a defined benthic, subtidal, and intertidal ecology study area, as well as monitor contaminants and the fauna that are present. Data from these surveys will be used to confirm or dispute existing data from across the survey area.

Baseline

3.2.3 This characterisation of the habitats and species around the proposed development has been completed by drawing upon work that was undertaken in support of various OWF projects in the vicinity of the proposed development as well as wider information from publicly available sources (listed above). Moray West OWF, Moray East OWF and the Beatrice OWF are located 85.5 km, 77.6 km, and 94.7 km (respectively) from the closest point to the Muir Mhòr offshore ECC. However, data from these OWFs have been drawn upon for this Benthic Subtidal and Intertidal Ecology screening assessment, as the species and habitats found within these areas are broadly similar.

Array area

3.2.4 The Cefas seabed sediment modelling data across the array (Cefas, 2015) indicates the presence of sand and muddy sand, with coarse sediments scattered within the array area. A total of two broadscale sediment habitats have been identified within the array area through a review of the EUSeaMap data (2021). The area is characterised by deep circalittoral sand with areas of deep circalittoral coarse sediment to the south, southwest and southeast of the array.

3.2.5 The Cefas seabed sediment modelling data provides a low-level characterisation compared to the EUSeaMap data; however, the datasets do correspond to one another as the coarse sediment band recorded in Cefas data is in the same region as the deep circalittoral coarse sediment in EUSeaMap data.

3.2.6 Given the proximity of the neighbouring Hywind Scotland Pilot OWF (approximately 35.6 km and 0 km from the Muir Mhòr array area and offshore ECC, respectively), it is considered that the information presented to describe their baseline environment is an appropriate proxy for the proposed development area. Benthic and geophysical surveys carried out for Hywind, which included DDV, photographic and sediment grab surveys, indicated that seabed habitats were characterised by extensive areas of circalittoral fine sand, gravel with mega-ripples and very fine pebbles that become more predominant towards the offshore ECC (MMT, 2013). In some areas of the Hywind Scotland Pilot OWF site, primarily in the southwestern corner of the Hywind array area, habitats comprising of scattered boulders were detected (MMT, 2013).

3.2.7 The following biotopes (or slight variants of) were recorded across the Hywind Scotland OWF array area:

- Offshore circalittoral sand;
- Offshore circalittoral mixed sediment; and
- *Saballeria spinulosa* on stable circalittoral mixed sediment.

3.2.8 The Hywind Scotland Pilot Environmental Statement (ES) (2015) reported similar present macrofauna at all stations in the array area, being dominated by the burrowing brittlestar (*Amphiura filiformis*), the epifaunal brittlestar (*Ophiocten affinis*), the amphipods *Urothoe spp., Bathyporeia spp*. And *Harpinia spp*., the razor clam (*Antalis entails*) and the polychaetes *Scoloplos armiger*, *Spiophanes spp*., *Diplocirrus glaucus*, *Owenia fusiformis* and *Galathowenia oculate*. In addition, the sea urchin (*Echinocyamus pusillus*) was also plentifully found along the cable route.

3.2.9 Outside of the Hywind Scotland Pilot array area, an ocean quahog (*Arctica islandica*) was detected. The ocean quahog is designated as a Priority Marine Feature (PMF). The survey detected varied and scattered *Sabellaria spinulosa* coverage of approximately 10%, which were classified as ‘Low graded reef’.

Offshore ECC

3.2.10 According to EUSeaMap (2021) data, the offshore region of the Muir Mhòr offshore ECC, is dominated by deep circalittoral sand with patches of circalittoral coarse sediment. There is a strip of deep circalittoral coarse sediments across the southwest of the offshore ECC towards the Muir Mhòr array area. The inshore region of the offshore ECC is dominated by deep circalittoral coarse sediment with smaller areas of Atlantic and Mediterranean high energy circalittoral rock, Atlantic and Mediterranean moderate energy circalittoral rock, faunal communities on deep moderate energy circalittoral rock, deep circalittoral sand and circalittoral fine sand.

3.2.11 EUSeaMap (2021) data corresponds to Cefas (2015) data which shows the offshore region to be dominated by sand and muddy sand, with a band of coarse sediments in the inshore region and to the south closer to the Muir Mhòr array area.

3.2.12 EUNIS habitat survey point data exist for the inshore region of the offshore ECC. These habitat points present information from site specific surveys (from a range of sources) and therefore present detail that is not defined in the broadscale habitat mapping data. For example, in the region of the offshore ECC classified as infralittoral coarse sediment under broadscale mapping data, habitat survey point data describes the presence of Atlantic and Mediterranean high energy infralittoral rock, Atlantic and Mediterranean moderate energy infralittoral rock and features of infralittoral rock.

3.2.13 Within the Muir Mhòr offshore ECC, faunal clusters have been identified, predominantly across the deep circalittoral coarse sediment. Clusters are fairly homogenous across the sample area with only A5.4 (infralittoral mixed sediments) and A2.2 (littoral sand and muddy sand) being recorded within the inshore offshore ECC. Associated taxa with cluster A5.4 include *Spinnidae, Glyceridae* and *Nemertea* and associated taxa with cluster A2.2 include *Amphyiuridae, Nephtyidae* and *Lumbrineridae*. Within the further offshore areas of the ECC, clusters A5.2 (infralittoral muddy sand), D2c, and D2a are present.

3.2.14 As stated above, the Hywind Scotland Pilot OWF is in close proximity to the proposed development, and it considered appropriate to use the surveys undertaken for the Hywind project to describe the area in and around the proposed development. The particle size analyses undertaken as part of site-specific surveys identified that the Hywind ECC is dominated by sand, with occasional shell fragments.

3.2.15 The following biotopes (or slight variants of) were recorded across the Hywind Scotland Pilot OWF ECC:

- *Laminaria hyperborean* with dense foliose red seaweed on exposed infralittoral rock;
- *Sabellaria spinulosa* with bryozoans' turf and barnacles on silty turbid circalittoral rock;
- *Flustra foliacea* on slightly scoured silty circalittoral rock;
- *Alcyonium digitatum* with *Securiflustra securifrons* on tide-swept moderately wave-exposed circalittoral rock;
- Foliose red seaweed with dense *Dictyota dichtoma* and/or *Dictyopteris membranacea* on exposed lower infralittoral rock;
- Grazed laminaria hyperborean forest with coralline crusts on upper infralittoral rock;
- *Flustra foliacea* and *hydrallmania falcata* on tide-swept circalittoral mixed sediment;
- Polychaete-rich deep Venus community in offshore mixed sediments;
- Circalittoral fine sand;

- Infralittoral fine sand;
- Infralittoral mobile clean sand with sparse fauna;
- *Sabellaria spinulosa* on stable circalittoral mixed sediment; and
- Offshore circalittoral sand.

3.2.16 The Hywind Scotland Pilot OWF ECC follows a similar route to the Muir Mhòr offshore ECC. Site-specific surveys of the Hywind Scotland ECC (MMT, 2013) indicate that the region was predominantly made up of homogenous sedimentary habitat with areas of muddy sand, fine sandy mud, mixed sandy gravels. The fauna that were recorded from infaunal grab samples included seapens, Virgularia mirabilis and Pennatula phosphorea. The offshore region of the Hywind Scotland Pilot ECC was described to be made up of mostly fine, sandy mud with patches of mixed coarse sand, gravel and shell material. The sediment type was more varied with mixed sediment types being recorded including cobbles, boulders and exposed bedrock further inshore.

3.2.17 Samples taken during the Hywind Scotland Pilot OWF survey along the offshore regions of the ECC detected sparse epifaunal communities. The regions of the ECC closer to inshore identified a variety of bivalve mollucs, including *Clausinella fasciata*, the pea urchin *Echinocyamus pusillus* and the polychaetes *Laonice bahusiensis, Ophelia borealis* and *Glycera lapidum.*

3.2.18 During the Hywind Scotland Pilot benthic survey of the ECC, two species listed among the PMFs were encountered: Raitt's sandeel (*Ammodytes marinus*) and the lesser sandeel (*Ammodytes tobianus*). One specimen of each sandeel was detected at two separate survey stations, with both sites situated within areas of fine sand along the ECC.

3.3 Marine Mammal Ecology

Existing Data Sources

3.3.1 The following datasets provide the existing baseline for marine mammals:

- Regional Baselines for Marine Mammal Knowledge Across the North Sea and Atlantic Areas of Scottish Waters (Hague *et al.,* 2020);
- Revised Phase III Data Analysis of Joint Cetacean Protocol Data Resources (Paxton *et al.,* 2016);
- Statistical approaches to aid the identification of Marine Protected Areas for minke whale, Risso's dolphin, white-beaked dolphin and basking shark (Paxton *et al.,* 2014);
- Existing OWF data (e.g., Beatrice, Moray East, Moray West, Seagreen, Inch Cape, Neart na Gaoithe, Berwick Bank);
- Small Cetaceans in European Atlantic waters and the North Sea (SCANS) III data and density surfaces (Hammond *et al.,* 2021; Lacey *et al.,* 2022);
- Special Committee on Seals (SCOS) Scientific Advice on Matters Related to the Management of Seal Populations (SCOS 2022);
- Seal telemetry database (Sea Mammal Research Unit; SMRU 2019)[1];
- Updated abundance estimates for cetacean Management Units in UK waters (Inter-Agency Marine Mammal Working Group; IAMMWG 2022);

[1] Data collated by multiple authors and gathered through a consortium of funders.

- Designated haul-out sites for grey and harbour seals (Protection of Seals Orders) (Marine Scotland 2017);
- East Coast Scotland Marine Mammal Acoustic Array (ECOMMAS) (e.g., Ward 2017; Palmer *et al.,* 2019; Risch *et al.,* 2019);
- The Identification of Discrete and Persistent Areas of Relatively High Harbour Porpoise Density in the Wider UK M
- arine Area (Heinänen & Skov 2015);
- Distribution Maps of Cetacean and Seabird Populations in the North-East Atlantic (Waggitt *et al., 2020*); and
- Various studies on the bottlenose dolphin population (e.g., Cheney *et al.,* 2013; Quick *et al., 2014*; Cheney *et al.,* 2018; Arso Civil *et al.,* 2021).

Site Specific Surveys

3.3.2 Site-specific baseline characterisation Digital Aerial Surveys (DAS) were undertaken by HiDef Aerial surveying Ltd. (HiDef) (April 2020 – March 2023). The survey area covered the Muir Mhòr array area plus 4 km buffer and transect lines were spaced approximately 2.5 km apart (Figure 3.1). The data will be processed and analysed to characterise the marine mammal occurrence within the survey area. Where data allows, estimations of species density in the area will also be calculated.

3.3.3 Regional DAS are also being undertaken covering the wider E1 and E2 PO areas (Figure 3.1), as per the recommendation in the SMP (Scottish Government, 2020). Data from regional DAS will be used to contextualise impacts described from site-specific DAS datasets.

3.3.4 Currently, no additional pre-consent baseline marine mammal surveys are planned to be undertaken as the two years of site specific surveys, combined with the data obtained from other nearby OWF developments (e.g. Beatrice, Moray East, Moray West, Seagreen, Inch Cape, Neart na Gaoithe, Berwick Bank), and existing wider scale surveys (e.g. SCANS III) are considered to provide sufficient to characterise the baseline for the pre consent process.

620000 640000 660000 680000 700000

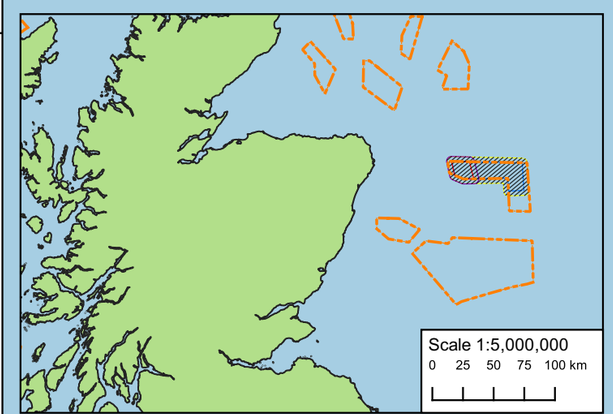
6380000

6360000

6340000

Legend

- Array Area
- 4 km buffer of array area
- Wider survey area within E2 plan option area
- 4 km buffer around wider survey area
- Aerial transects



620000 640000 660000 680000 700000

This drawing/map has been produced to the latest known information at the time of issue. Please consult with the Vattenfall GIS team to ensure the content is still current before using the information contained on this map.

MUIR MHÒR OFFSHORE WIND FARM

A joint venture between Fifth Ocean Seawind & Vattenfall

Muir Mhòr Offshore Wind Farm Ltd, The Tun Building
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United Kingdom

Rev	Date	Drawn By	Checked By	Comment
B	12/05/23	JO	CP	Third issue
B	03/05/23	JO	CP	Second issue
A	04/04/23	DM	FM	First issue

Datum	ETRS 1989
Projection	ETRS 1989 UTM Zone 30N
Plot	A3
Scale	1:280,000

0 2 4 6 8 10 km

MUIR MHÒR WIND FARM

Digital Aerial Survey (DAS) Area and Transects

Confidentiality Class	C1
Drg No	GB204098_M_023
Rev	C
Layout	NA

Figure 3.1

Ref files: GB204098_M_023_C

Baseline

3.3.5 The Muir Mhòr site specific surveys have identified six marine mammal species, harbour porpoise (*Phocoena phocoena*), white-beaked dolphins (*Lagenorhynchus albirostris*), Risso's dolphins (*Grampus griseus*), minke whales (*Balaenoptera acutorostrata*), harbour seals (*Phoca vitulina*) and grey seals (*Halichoerus grypus*). Of these, harbour porpoise, bottlenose dolphins, harbour seals and grey seals are Annex II species that are considered in the HRA.

3.3.6 Please note, since minke whales are not Annex II species, they are not considered in the HRA. However, the Environmental Impact Assessment (EIA) Report for Muir Mhòr will include an assessment of impacts to the Southern Trench Nature Conservation Marine Protected Areas (NCMPA) which is designated for minke whales.

Harbour porpoise

3.3.7 The population estimate for the North Sea Management Unit (MU) (in which Muir Mhòr is located) based on SCANS III data is 346,601 harbour porpoise (95% Confidence Interval (CI): 289,498 – 419,967; Coefficients of Variation (CV): 0.09) (IAMMWG, 2022). The UK portion of this MU has an estimated abundance of 159,632 porpoise (95% CI: 127,442 – 199,954; CV: 0.12) (IAMMWG, 2022). The conservation status of harbour porpoise in UK waters has been updated by the JNCC (2019b) which concludes a favourable assessment of future prospects and range, but an unknown conclusion for population size and habitat. This resulted in an overall assessment of conservation status of "Unknown" and an overall trend in conservation status of "Unknown". A trend analysis indicates that the harbour porpoise abundance in the North Sea is stable and has not changed since 1994, although the associated confidence intervals are quite wide (JNCC 2019b; Hammond et al., 2021).

3.3.8 The North Sea MU contains the Southern North Sea (SNS) SAC which is designated for harbour porpoise. The SNS SAC has been identified as being a discrete and persistent area of high porpoise density (Heinänen & Skov 2015). The year-round high density in this area has also been demonstrated by the analyses presented in Waggitt et al., (2020), with peak breeding season between May and August. The Muir Mhòr array area does not overlap with this SAC (~221 km from the array area).

Bottlenose dolphin

3.3.9 The Muir Mhòr array area is located in the Greater North Sea (GNS) MU for bottlenose dolphins, while the ECC crosses the Coastal East Scotland (CES) MU. The population estimate for the CES MU is 224 bottlenose dolphins (95% CI: 214 – 234; CV: 0.02) (Arso Civil et al., 2021; IAMMWG 2022). The CES MU is located entirely within the UK Exclusive Economic Zone (EEZ). The population estimate for the GNS MU is 2,022 bottlenose dolphins (95% CI: 214 – 234; CV: 0.75), the UK portion of which has a population estimate of 1,885 (95% CI: 476 – 7,461; CV: 0.8) (Rogan *et al.*, 2018; Hammond et al., 2021; IAMMWG 2022). Bottlenose dolphins in the GNS MU considered to be of the offshore eco-type (which are considered separate to the coastal ecotype of the CES population). The quantitative assessment for bottlenose dolphins will consider potential impacts to both the offshore population and the coastal population separately.

3.3.10 In the UK, bottlenose dolphins have been assessed as having an 'Unknown' Overall Conservation Status (JNCC 2019a), although the CES MU population is thought to be increasing (Arso Civil et al., 2021).

3.3.11 The closest SAC designated for bottlenose dolphin is the Moray Firth SAC (~102 km from ECC). The resident population protected by this SAC have a range extending beyond the SAC boundary, along the east coast of Scotland including the Tay Estuary and Firth of Forth. In more recent years, photo ID studies have also found matches with the east coast of England

and in the North Sea (Arso Civil *et al*., 2021; Arso Civil *et al*., 2022). It is anticipated that there will be few, if any, individuals present within the offshore areas of the project, but bottlenose dolphin presence is considered more likely in the nearshore area of the offshore ECC and the wider coastal areas.

Harbour seals

3.3.12 The proposed development is located within the East Scotland MU, but is adjacent to the Moray Firth MU, and as such, the relevant reference population for this species is both MUs combined. The estimated harbour seal population size for the combined East Scotland and Moray Firth Seal Management Units (SMUs) is 1,971 seals (SCOS 2022). Harbour seal populations in the Moray Firth SMU are thought to be stabilising and/or potentially increasing slowly, whilst the East Coast Scotland SMU declined significantly since 2002 (SCOS 2022).

3.3.13 The overall Conservation Status of harbour seals in UK waters has been assessed as 'Unfavourable – Inadequate' with an unknown overall trend in Conservation Status (JNCC 2013, 2019d).

3.3.14 For harbour seals in Scotland, many breeding sites, which are monitored for pup production, are designated as SACs. The closest of these harbour seal SACs to the proposed development are the Firth of Tay and Eden Estuary SAC, ~117 km southwest of the offshore ECC (within the East Scotland SMU), and the Dornoch Firth and Morrich More SAC, ~143 km west-north-west of the offshore ECC (within the Moray Firth SMU). The latest harbour seal counts for each of these SACs show a declining population within each SAC, although comparisons of the time series of harbour seals counted within SACs compared with numbers found within a 50 km range show that SACs are not reliable indicators of trends in the wider population which are better represented by MU trends (Carter *et al.,* 2022).

Grey seals

3.3.15 The proposed development is located within the East Scotland MU, but is adjacent to the Moray Firth MU, and as such, the relevant reference population for this species is both MUs combined. The estimated grey seal population size for the combined East Scotland and Moray Firth SMUs is24,980 (21,632 – 29,279) seals (SCOS 2022). The overall assessment of conservation status of grey seals in UK waters has been assessed as 'Favourable' with an overall improving trend in conservation status (JNCC 2019c) and population modelling for regularly monitored grey seal breeding colonies across the UK show an increasing trend of 2% per annum (SCOS 2022).

3.3.16 For grey seals in Scotland, many breeding sites which are monitored for pup production, are designated as SACs. The closest of these grey seal SACs to the proposed development is the Isle of May SAC ~139.5 km southwest of the offshore ECC (within the East Scotland SMU) which has the largest east coast breeding colony of grey seals in Scotland. As of 2021, SCOS reported that pup production within the Isle of May SAC appeared to be 'potentially declining' (SCOS 2022). An additional SAC designated for grey seals within the MU is the Berwickshire and North Northumberland Coast SAC, ~162 km south-south-west of the offshore ECC (within the East Scotland SMU). Overall pup production in the Berwickshire & North Northumberland Coast SAC is continuing to increase and between 2014 and 2019, pup production at the Berwickshire and North Northumberland Coast SAC had a mean estimated increase of 53% (SCOS 2022).

3.4 Offshore and Intertidal Ornithology

Existing Data Sources

3.4.1 The following datasets provide the existing baseline for offshore and intertidal ornithology:

- Designated site information, taken from NatureScot SiteLink (https://sitelink.nature.scot/home), Natural England (https://www.gov.uk/topic/planning-development/protected-sites-species), and EUNIS (https://eunis.eea.europa.eu/);
- Joint Nature Conservation Council (JNCC) and British Trust for Ornithology (BTO) Seabird Monitoring Programme, which provides information on seabird colony counts. https://app.bto.org/seabirds/public/index.jsp;
- Seabird tracking data such as from the Seabird Tracking Database (https://data.seabirdtracking.org), and specific studies such as Buckenham *et al.,* 2022;
- Desk-based revision of seabird foraging ranges used for HRA screening (Woodward *et al.,* 2019);
- Reports on seabird distribution (Furness *et al., 2015*; Wakefield *et al., 2017*; Cleasby *et al.,* 2018; Waggit *et al.,* 2019);
- BTO Wetland Bird Survey (WeBS) data;
- Information on geese distributions (Mitchell, 2012; Bridges *et al.,* 2021); and
- Information on migratory pathways (Wright *et al.,* 2012).

Site Specific Surveys

3.4.2 Site-specific ornithological surveys of the Muir Mhòr array area have been undertaken by HiDef using a DAS methodology. Surveys were undertaken monthly between April 2021 and March 2023. These utilised 26 south-west to north-east orientated transects spaced 2.5 km apart (Figure 3.1). The survey area includes the array area and a 4 km buffer and extends east to include a larger section of the Plan Option (PO) area. A transect strip width of 250 m has been analysed, resulting in an area coverage of 10%. Data collected during site-specific DAS will be used to determine ornithological baseline conditions at the Muir Mhòr array area.

3.4.3 Regional DAS are also being undertaken covering the wider E1 and E2 PO areas (Figure 3.1), as per the recommendation in the Sectoral Marine Plan (SMP; Scottish Government, 2020). Data from regional DAS will be used to contextualise impacts described from site-specific DAS datasets.

3.4.4 Baseline intertidal ornithology surveys are being carried out monthly between October 2022 and September 2023. These surveys cover the non-breeding period when wintering waders and wildfowl are present at coastal sites along the Scottish east coast. Surveys follow the Wetland Bird Survey (WeBS) methodology (BTO, 2017), whereby an observer carries out a walkover survey within a predetermined area of coastal or wetland habitat and records counts of all waterbird species present.

Baseline

3.4.5 The Muir Mhòr array area is situated approximately 63 km off Peterhead, on the north-east Aberdeenshire coast. North Sea waters off the Scottish east coast host internationally important numbers of seabird species, including gannet, auks, kittiwake, and other gull species (Cleasby *et al., 2018*; Waggitt *et al., 2019*). These species, among others, are features of several key breeding seabird SPAs which are situated along the Scottish east coast.

3.4.6 Baseline characterisation is being undertaken via assessment of existing available datasets which are relevant to the study area, as well as through site-specific surveys and the consultation process. This section summarises the offshore and intertidal ornithological baseline during the breeding and non-breeding seasons, as well as during the spring and autumn migration periods. The species considered as part of the screening process are listed in Table 3.2.

3.4.7 The Birds of Conservation Concern (BoCC) List 5 (Stanbury *et al.,* 2021) is the most recent review of the conservation status of birds in the UK, the Channel Islands, and the Isle of Man. The criteria and protocols used to assign species to green, amber and red categories of conservation concern are standardised from a range of ornithological NGOs, including the BTO, RSPB, JNCC and NatureScot, and include consideration of factors such as each species' population trends and range, scarcity, historical decline and international importance.

Table 3.2: List of ornithological features considered as part of the Offshore HRA Screening.

Species	Nature Conservation Value	
	Birds of Conservation Concern[2]	International Union for Conservation of Nature (IUCN) Red List[3] status (Global)
Wildfowl		
Svalbard barnacle goose	Amber	Least concern
Pink-footed goose	Amber	Least concern
Greylag goose	Amber	Least concern
Whooper swan	Amber	Least concern
Wigeon	Amber	Least concern
Mallard	Amber	Least concern
Pintail	Amber	Least concern
Teal	Amber	Least concern
Sea ducks		
Scaup	Red	Least concern
Eider	Amber	Near threatened
Velvet scoter	Red	Vulnerable
Common scoter	Red	Least concern
Goldeneye	Red	Least concern

[2] Stanbury *et al.*, (2021)
[3] IUCN (2023).

Species	Nature Conservation Value	
	Birds of Conservation Concern[2]	International Union for Conservation of Nature (IUCN) Red List[3] status (Global)
Long-tailed duck	Red	Vulnerable
Red-breasted merganser	Amber	Least concern
Grebes		
Great crested grebe	Green	Least concern
Slavonian grebe	Red	Vulnerable
Waders		
Oystercatcher	Amber	Near threatened
Lapwing	Red	Near threatened
Golden plover	Green	Least concern
Grey plover	Amber	Least concern
Ringed plover	Red	Least concern
Curlew	Red	Near threatened
Bar-tailed godwit	Amber	Near threatened
Turnstone	Amber	Least concern
Knot	Amber	Near threatened
Dunlin	Red	Least concern
Red-necked phalarope	Red	Least concern
Redshank	Amber	Least concern
Gulls		
Kittiwake	Red	Vulnerable
Great black-backed gull	Amber	Least concern
Herring gull	Red	Least concern
Lesser black-backed gull	Amber	Least concern
Terns		
Sandwich tern	Amber	Least concern

Species	Nature Conservation Value	
	Birds of Conservation Concern[2]	International Union for Conservation of Nature (IUCN) Red List[3] status (Global)
Roseate tern	Red	Least concern
Common tern	Amber	Least concern
Arctic tern	Amber	Least concern
Skuas		
Great skua	Amber	Least concern
Arctic skua	Red	Least concern
Auks		
Guillemot	Amber	Least concern
Razorbill	Amber	Near Threatened
Puffin	Red	Vulnerable
Divers		
Red-throated diver	Amber	Least concern
Black-throated diver	Amber	Least concern
Great northern diver	Amber	Least concern
Procellarids		
European storm petrel	Amber	Least concern
Leach's petrel	Red	Vulnerable
Fulmar	Amber	Least concern
Manx shearwater	Amber	Least concern
Gannet		
Gannet	Amber	Least concern
Shags/cormorants		
Cormorant	Green	Least concern
Shag	Red	Least concern
Raptors		

Species	Nature Conservation Value	
	Birds of Conservation Concern[2]	International Union for Conservation of Nature (IUCN) Red List[3] status (Global)
Osprey	Amber	Least concern
Peregrine falcon	Green	Least concern
Passerines		
Fair Isle wren	Amber	Least concern

Breeding Season: Seabirds

3.4.8 The results of the first breeding season of DAS (April 2021 to September 2021) indicate the occurrence of seabird species which are typically expected to be found in this region of the North Sea during these months of the year. These include gulls, auks, fulmar, and gannet, as well as small numbers of Manx shearwater, European storm petrel and terns. Seasonal summaries for key seabird species are given below.

Fulmar

3.4.9 Analysis of the first year of breeding season data give an estimated provisional peak abundance of 5,363 fulmar within the array area plus a 2 km buffer (Furness *et al.,* 2013). This species is not considered to be at high risk of collision impacts, as fulmar flight height is generally close to the sea surface and below Potential Collision Height (PCH). This species is also considered to have very low susceptibility to anthropogenic disturbance and a very low level of habitat specialisation (Bradbury *et al.,* 2014; Furness *et al.,* 2013), it is not considered to be sensitive to displacement mortality impacts from offshore wind farm projects (Furness *et al.,* 2013). Fulmars were relatively uniformly distributed throughout the surveyed area during breeding season 2021 surveys.

Guillemot

3.4.10 For guillemot, a provisional peak abundance of 19,321 individuals within the site plus a 2 km buffer was estimated through analysis of April to September 2021 DAS data (note that availability bias was not accounted for in this estimation). This relatively high peak abundance is expected, given the high numbers of breeding guillemot present along the Scottish east coast during this time of year (Wakefield *et al.,* 2017). The low flight height distribution of guillemot at sea (i.e., away from coastal breeding colonies) means this species is not considered to be sensitive to collision mortality impacts from offshore wind farms but is considered to be sensitive to displacement (Bradbury *et al.,* 2014; Furness *et al.,* 2013).

Gannet

3.4.11 The closest SPA for which gannet is designated as a breeding feature is the Forth Islands SPA (approximately 174 km south-west of the Muir Mhòr array area), which incorporates the internationally important Bass Rock gannet breeding colony. The Muir Mhòr array area lies within foraging range of gannets from the Forth Islands SPA (Cleasby *et al.,* 2015; Wakefield *et al.,* 2013; Woodward *et al.,* 2019). Analysis of breeding season 2021 baseline survey data gave an estimated peak seasonal abundance of 1,666 birds. Given the relatively large proportion of flight activity undertaken by this species at altitudes which correspond with the rotor swept range of offshore wind turbines (compared to flight activity of other seabird

species), this species is considered to be sensitive to collision mortality impacts, as well as displacement, from offshore wind farm projects (Bradbury *et al.,* 2014; Furness *et al.,* 2013).

3.4.12 Gannet were found to be relatively evenly distributed throughout the surveyed area during 2021 breeding season surveys.

Kittiwake

3.4.13 The Scottish east coast supports several SPA seabird colonies under which breeding kittiwake are designated as features. The closest of these include the Buchan Ness to Collieston Coast SPA (approximately 61 km west of the Muir Mhòr array area), Fowlsheugh SPA (approximately 102 km south-west of the Muir Mhòr array area) and the Troup, Pennan and Lion's Heads SPA (approximately 90 km west of the Muir Mhòr array area using the shortest distance by sea). The provisional estimated peak abundance of kittiwake within the site-specific surveyed area was 1,094 birds. Kittiwake are considered to be at risk of collision (Bradbury *et al.,* 2014; Furness *et al.,* 2013) and displacement. During breeding season 2021 surveys, kittiwake were found throughout the surveyed area, with relatively higher densities occurring towards the west and south-west regions of the area.

Puffin

3.4.14 Puffin were recorded in moderately high numbers during the site-specific 2021 breeding season surveys. A provisional seasonal peak of 1,574 birds was estimated for the breeding season (not accounting for availability bias). Although this species is not considered to be at high risk in terms of collision (Bradbury *et al.,* 2014; Furness *et al.,* 2013), there is potential for puffin to be displaced from the Muir Mhòr array area. The proposed development lies within foraging range of puffin breeding at the Forth Islands SPA, approximately 171.6 km to the south-west of the Muir Mhòr array area and under which this species is designated as a breeding feature. Puffin were distributed relatively uniformly throughout the 2021 surveyed area, with slightly lower densities recorded towards the east of E2.

Razorbill

3.4.15 As with the other auks, whilst razorbill are considered to be at low risk of collision due to their typically low flight height distribution at sea, they are considered to be sensitive to displacement (Bradbury *et al.,* 2014; Furness *et al.,* 2013). Razorbill was recorded in lower numbers than the other auk species, and was distributed throughout the surveyed area, with relatively higher density towards the west of E2 and the Muir Mhòr array area. The provisional estimated peak count for razorbill in the breeding season within the project area plus a 2 km buffer was 762 birds (not accounting for availability bias). Razorbill is listed as a breeding feature of several breeding seabird SPAs that lie within this species' foraging range of the Muir Mhòr array area, including the Buchan Ness to Collieston Coast SPA, Fowlsheugh SPA and Troup, Pennan and Lion's Heads SPA.

Non-breeding Season: Seabirds

3.4.16 As expected, site-specific aerial surveys undertaken during the 2021/2022 non-breeding season recorded seabird species in smaller numbers compared to the breeding season. During the post-breeding and subsequent winter period, seabirds disperse into the wider marine environment, with distances to wintering grounds varying between both species and individual populations.

3.4.17 Of the key species recorded as being present in numbers during the breeding season, the greatest percentage decrease in provisional peak abundance estimated during the non-breeding season was in razorbill (89%), followed by guillemot (86%) and fulmar (76%). The species with the least percentage decrease in provisional peak abundance estimated during the non-breeding season compared to the breeding season was puffin (33%), followed by

gannet (45%). There was a 73% decrease in the provisional estimated peak abundance of kittiwake in the non-breeding season compared to the breeding season.

3.4.18 Great black-backed gull was absent from the surveyed area during the 2021 breeding season; however, this species was recorded in small numbers both on sea and in flight within the Project area and associated buffers during the 2021/2022 non-breeding season. Herring gull were largely absent during breeding season 2021 surveys; however, some birds were recorded within the E2 survey area during the 2021/2022 non-breeding season.

Spring and Autumn Migration Periods

3.4.19 The North Sea between the UK's east coast and continental Europe and Scandinavia is considered to be part of the East Atlantic Flyway, a major north-south migration route for many species of birds, including wildfowl, waders, other non-passerine species including birds of prey, and passerines. Many birds travelling to countries such as Norway (including Svalbard), Denmark, Iceland and Greenland make landfall along Scotland's east coast (Mitchell; 2012). Several SPAs under which migratory wildfowl and waders are listed as wintering features are situated along the Aberdeenshire coast, approximately adjacent to the Project. These include the Ythan Estuary, Sands of Forvie and Meikle Loch SPA, the Loch of Strathbeg SPA and the Montrose Basin SPA.

3.4.20 Pink-footed goose is a wintering feature of these three SPAs, with graylag goose also being listed under the Loch of Strathbeg and Montrose Basin SPAs. In addition, Svalbard barnacle goose is listed as a wintering feature of the Loch of Strathbeg SPA. Although there is potential for migrating geese to interact with anthropogenic structures at sea, tracking evidence suggests birds travelling closer to the coastline (Griffin *et al.,* 2011).

Intertidal Ornithological Baseline Environment

3.4.21 Two stretches of coastline, to the north and south of the town of Peterhead, Aberdeenshire, are currently being considered for cable landfall options.

3.4.22 The northern stretch of coastline does not overlap with any designated sites. The closest designated site to the northern landfall search area is the Buchan Ness to Collieston Coast SPA, which lies approximately 4.5 km to the south using the shortest distance by sea. The Loch of Strathbeg SPA, which is designated for wintering waders and wildfowl, is situated approximately 5.5 km to the north of the northern cable search area, using a straight-line distance.

3.4.23 The southern stretch of coastline, from Peterhead to Cruden Bay, overlaps with the Buchan Ness to Collieston Coast SPA for its full length. This rocky coastline SPA is designated for breeding seabirds. The southern landfall search area also incorporates approximately three kilometres of the northern extent of the Ythan Estuary, Sands of Forvie and Meikle Loch SPA, which is designated for breeding common, Arctic and Sandwich terns, as well as wintering pink-footed geese.

3.5 Migratory Fish

Existing Data Sources

3.5.1 The following regional datasets provide the existing baseline for migratory fish:

- Existing OWF data and reports (e.g., Hywind Scotland Pilot (Statoil, 2015), Beatrice (2010, 2012, 2022), Moray West (Moray Offshore Windfarm (West) Ltd, 2018), Moray East (Moray Offshore Windfarm Renewables Ltd, 2011, 2014));
- Environmental Agency fish pass counts;

- Fisheries datasets available from the Marine Scotland MAPS National Marine Plan Interactive (NMPi), including ScotMap data;
- International Council for the Exploration of the Sea (ICES) North Sea International Bottom Trawl Survey (2019-2023);
- ICES Beam Trawl Surveys (2019-2023);
- Information on species of conservation interest (JNCC, 2007)[4]; and
- Sound exposure guidelines for Fishes and Sea Turtles (Popper et al., 2014).

Site Specific Surveys

3.5.2 It is proposed that the characterisation of the species found within the vicinity of Muir Mhòr will be completed by drawing upon work that has been undertaken in support of various wind farm projects in the region, as well as wider information from publicly available sources. The results of the benthic ecology surveys (e.g., habitat maps and PSA) will be used to understand the suitability of the seabed habitat at the proposed development for sandeel and herring spawning. In addition, information on fish and elasmobranch communities in the vicinity of the proposed development will be provided by the eDNA sampling and analysis.

3.5.3 It is considered that the use of publicly available datasets for fish and shellfish ecology combined with site-specific eDNA data is sufficient to establish a robust baseline for an offshore wind farm at this specific location and provide the basis for the HRA of the development of the proposed development.

Baseline

3.5.4 This characterisation of the migratory fish species around the proposed development has been completed by drawing upon work that was undertaken in support of various windfarm projects in the vicinity of the proposed development as well as wider information from publicly available sources (listed above). The Moray West OWF, Moray East OWF and the Beatrice OWF are located 85.5 km, 77.6 km and 94.7 km (respectively) from the closest point to the Muir Mhòr offshore ECC. However, data from these OWFs have been drawn upon for this assessment, as the species and habitats found within these areas are broadly similar.

3.5.5 A wide range of species use the area as a spawning area including cod (*Gadus morhua*), plaice (*Pleuronectes platessa*), Norway pout (*Trospterus esmarkii*), whiting (*Merlangius merlangus*), sandeels (*Ammodytes marinus*), herring (*Clupea harengus*). Several species also use the area as a nursey ground including herring, whiting, tope shark (*Galeorhinus galeus*), spurdog (*Squalus acanthias*), spotted ray (*Raja montagui*), sandeel, plaice, saithe (*Pollachius virens)*, ling (*Molva molva*), mackerel (*Scomber scombrus*), European hake (*Merluccius merluccius*), lemon sole (*Microstomus kitt*), haddock (*Melanogrammus aeglefinus*), Nephrops (*Nephrops norvegicus*), Norway pout, and sprat (*Sprattus sprattus*).

3.5.6 With respect to Annex II species as designated within the Habitats Regulations, desk-based studies used to inform the Hywind Scotland Pilot OWF ES described the following diadromous migratory species being expected to transit through their array area and ECC and surrounding area (which includes the proposed development):

- Atlantic salmon (*Salmo salar*);
- Sea trout (*Salmo trutta*);
- European eel (*Anguilla anguilla*);

[4] https://hub.jncc.gov.uk/assets/98fb6dab-13ae-470d-884b-7816afce42d4#UKBAP-priority-fish.pdf

- River lamprey (*Lampetra fluviatillis*); and
- Sea lamprey (*Petromyzon marinus*).

3.5.7 While the extant data described above is considered appropriate to describe the baseline environment for the proposed development, should additional data of relevance to the migratory fish screening emerge from additional sources, it will be taken into account within the RIAA for completeness.

4 Determination of Screening Distances

4.1 Determination Process

4.1.1 Given the nature and scale of the proposed development and the number of European sites that could potentially be affected, the HRA screening is fronted by an initial selection process, to identify which sites and features require consideration within the screening process. This is achieved through a receptor-based approach with a source-pathway-receptor methodology, where a receptor can only be impacted by an effect if a pathway exists through which the effect can be transmitted between the source activity and the receptor.

4.1.2 This step to the process essentially provides a long list of designated sites identified based on potential spatial connectivity to the proposed development, to be taken forward for consideration of no LSE. The potential effects associated with the construction, operation, and maintenance (O&M) and decommissioning of the proposed development are presented in Section 5, as well as a summary of all designated sites for each receptor group. Where some designated sites are designated for features covering multiple receptor groups, the site has been repeated in all relevant sections below, with only the features relevant to the specific receptor group presented in the relevant section. The site selection process is described below on a receptor group basis.

4.2 Screening Distances Applied for Benthic Subtidal and Intertidal Ecology

4.2.1 An initial site selection range of 50 km from the proposed development was applied to identify all designated sites with benthic subtidal and intertidal ecology features. A subsequent precautionary range of 20 km was applied as the distance threshold for LSE, based on the maximum potential range for any impacts caused by the proposed development on sites with benthic subtidal and intertidal ecology features. This is based on the impact with the largest zone of influence which is considered to be increased suspended sediment concentrations and deposition. A precautionary 20 km range is applied in the absence of site-specific physical process assessment information. That range will be confirmed (or updated if relevant) through subsequent technical reporting (specifically marine and coastal processes).

4.3 Screening Distances Applied for Marine Mammal Ecology

4.3.1 The site selection process applied for cetaceans depends on the species and their relevant MUs. At the screening stage, all designated SACs within the species specific MUs are considered for the identified cetacean species (harbour porpoise and bottlenose dolphin, Section 3.3).

4.3.2 For the identified seal species, based on telemetry data NatureScot advises that the screening buffer used for harbour seals is 50 km and for grey seals is 20 km to reflect the at sea distribution of each species during the breeding season. The 50 km radius is applied to harbour seals as they show site fidelity year-round, with no seasonal variation in presence (Carter *et al., 2022*; SCOS 2022). During the breeding season, grey seals are rarely seen to travel beyond 20 km from the colony, making this distance appropriate to use as a connectivity buffer. Although telemetry data for grey seals indicate wide-ranging foraging trips to locations 100 km or more may occur offshore (Jones *et al.,* 2015; Carter *et al., 2022*), this is outside of the breeding season and, therefore, does not impact the Conservation Objectives for grey seal SACs which are specifically related to the protection of the breeding colony.

4.3.3 The MUs applicable to each Annex II marine mammal species and the designated SACs within them are presented in Table 4.1.

Table 4.1: Marine mammal receptor MUs and SACs.

Marine mammal receptor	Relevant MU	SACs within MU
Harbour porpoise	North Sea	Southern North Sea
Bottlenose dolphin	Coastal East Scotland & Greater North Sea	Moray Firth
Harbour seal	Moray Firth & East Scotland	Firth of Tay and Eden Estuary & Dornoch Firth and Morrich More
Grey seal	Moray Firth & East Scotland	Isle of May & North Northumberland Coast

4.4 Screening Distances Applied for Offshore and Intertidal Ornithology

4.4.1 Site selection for offshore and intertidal ornithology identified all European sites (SPAs) and Ramsar sites) with designated ornithology features (both breeding/non-breeding seabirds and waterbirds) located within a range defined by the criteria outlined in Table 4.2.

Table 4.2: Screening site selection criteria for offshore and intertidal ornithology.

Criteria	Definition
1	SPAs and Ramsar sites that overlap with the array area or the offshore ECC.
2	SPAs and Ramsar sites with designations in relation to breeding features that use the array area or the offshore ECC. Sites will be selected if they are within the species-specific foraging distances (as specified by NatureScot, 2023) from the array area or the offshore ECC. These foraging distances are summarised in Table 4.3, and are derived from data from Woodward *et al.,* 2019; they use maximum foraging range + 1 standard deviation where this is available. This is the approach recommended by NatureScot, 2023.
3	Marine SPAs with breeding season features that may breed at SPAs as selected by criteria 2, as determined by the same approach using foraging distances specified by NatureScot, 2023. This is the approach recommended by NatureScot, 2023.
4	SPAs and Ramsar sites within range of the maximum expected extent of displacement / disturbance due to proposed development activities. Distances of 4 km for seaduck and 10 km for divers will be used based on JNCC, 2022 guidance.
5	SPAs and Ramsar sites for breeding and non-breeding interest features that might pass through the array area on migration. Based on Wildfowl and Wetland Trust (WWT) (2014) the search area has been determined as the east coast of Scotland.

Table 4.3 Species-specific foraging ranges used to screen in SPAs and Ramsar sites designated in relation to breeding seabird features, as per criteria 2 in Table 4.2.

Species	Recommended foraging range (km)	Metric
Eider	21.5	Mean maximum
Red-throated diver	9	Maximum / mean maximum
European storm petrel	336	Maximum / mean maximum
Leach's storm petrel	657	Mean
Fulmar	1200.2	Mean maximum + 1 standard deviation
Manx shearwater	2365.5	Mean maximum + 1 standard deviation
Gannet	590 for Forth Islands SPA 516.7 for Grassholm SPA 709 for St Kilda SPA 509.4 for all other SPAs	Maximum Maximum Maximum Mean maximum + 1 standard deviation
Shag	23.7	Mean maximum + 1 standard deviation
Cormorant	33.9	Mean maximum + 1 standard deviation
Kittiwake	300.6	Mean maximum + 1 standard deviation
Black-headed gull	18.5	Maximum / mean maximum
Mediterranean gull	20	Maximum / mean maximum
Common gull	50	Maximum / mean maximum
Great black-backed gull	73	Maximum / mean maximum
Herring gull	85.6	Mean maximum + 1 standard deviation
Lesser black-backed gull	236	Mean maximum + 1 standard deviation
Sandwich tern	57.5	Mean maximum + 1 standard deviation
Little tern	5	Maximum / mean maximum
Roseate tern	23.2	Mean maximum + 1 standard deviation
Common tern	26.9	Mean maximum + 1 standard deviation
Arctic tern	40.5	Mean maximum + 1 standard deviation
Great skua	931.2	Mean maximum + 1 standard deviation
Arctic skua	2.7	Mean + 1 standard deviation

Species	Recommended foraging range (km)	Metric
Guillemot	153.7 for Northern Isles SPAs 95.2 for all other locations	Mean maximum + 1 standard deviation
Razorbill	164.6 for Northern Isles SPAs 122.2 for all other locations	Mean maximum + 1 standard deviation
Black guillemot	9.1	Mean maximum + 1 standard deviation
Puffin	265.4	Mean maximum + 1 standard deviation

4.5 Screening Distances Applied for Migratory Fish

4.5.1 Following the standard approach adopted by other OWF developments and comments from the Scottish Ministers on other Scottish OWF developments, a highly precautionary approach has been used for migratory fish, with all designated sites for the relevant migratory fish in Scottish waters being considered with an additional 100 km buffer to cover any additional UK or transboundary sites. Based on the baseline environment (as described in Section 3.4.5), three species of designated migratory fish are considered to be within the Muir Mhòr array area regularly (Atlantic salmon, sea lamprey and river lamprey) and therefore designated sites for these species are considered.

5 Screening undertaken for the Proposed Development Alone

5.1.1 For this screening exercise, the maximum design scenario is based on the current Project description described in Table 1.1 (up to 67 WTGs). On a precautionary basis, the potential effects discussed below consider the largest potential impacts anticipated to occur from fixed foundations for OEP platforms. Where relevant, potential effects specific to only one foundation type (i.e., fixed of floating) are identified.

5.2 Benthic Subtidal and Intertidal Ecology

5.2.1 The study area for benthic subtidal and intertidal ecology receptors for the proposed development with respect to HRA Stage 1 is defined by the maximum range of relevant effects from the proposed development. The potential effects to be considered are identified in Table 5.1 including the types of activity that could result in such effects at different stages of development. The maximum range of all such effects is defined as 20 km (as described in Chapter 8: Benthic Subtidal and Intertidal Ecology of the Offshore Scoping Report); a precautionary value to fully encompass the maximum range of relevant effects (typically defined by dispersion of suspended sediment).

5.2.2 Based on the screening range considered in Section 3.2, there are no designated sites close enough to the proposed development for any of the potential effects described in Table 5.1.

Table 5.1: Benthic ecology receptor group potential effects.

Potential Effect	Activities Potentially Resulting in Effect		
	Construction	O&M	Decommissioning
Physical habitat loss/ disturbance	• Installation of structures; • Seabed preparation; • Seabed dredging; • Sediment disposal; • Installation of scour or cable protection • Vessel movements/ anchoring; and • All in-combination effects.	• Physical presence of structures; • All maintenance activities; • Presence of scour or cable protection; and • All in-combination effects	• Scope of works currently unknown; however, anticipated to be similar to those during construction
Suspended sediment/ deposition	• Installation of structures; • Seabed preparation; • Seabed dredging and sandwave clearance; • Sediment disposal; • Installation of scour or cable protection; • Vessel movements/ anchoring; and	• All maintenance activities; and • All in-combination effects	• Scope of works currently unknown; however, anticipated to be similar to those during construction

Potential Effect	Activities Potentially Resulting in Effect		
	Construction	O&M	Decommissioning
	• All in-combination effects		
Accidental pollution	• Release of contaminants; • Release of sediment (via all activities listed for suspended sediment/ deposition above); and • All in-combination effects	• Release of contaminants; • Release of sediment (via all activities listed for suspended sediment/ deposition above); and • All in-combination effects	• Scope of works currently unknown; however, anticipated to be similar to those during construction
Invasive Non-Native Species (INNS)	• Vessel movements on and off site; • Installation of solid structures; and • All in-combination effects.	• Vessel movements on and off site; • Maintenance activities; • Physical presence of structures; and • All in-combination effects.	• Scope of works currently unknown; however, anticipated to be similar to those during construction
Electromagnetic fields (EMF)	-	• Generation of EMF from installed cables; and • All in-combination effects	-
Changes to physical processes	• Installation of structures; and • All in-combination effects	• Physical presence of structures; • Installation of cable and scour protection (where required); and • All in-combination effects	-

5.3 Marine Mammal Ecology

5.3.1 Potential activities and resulting effects considered for the marine mammal receptors are provided in Table 5.2. All sites considered in the below screening table are depicted in Figure 5.1.

Table 5.2: Potential effects considered for marine mammals.

Potential Effect	Activities Potentially Resulting in Effect		
	Construction	O&M	Decommissioning
Injury and disturbance from underwater noise	• Pre-construction geophysical surveys; • Unexploded Ordnance (UXO) clearance; • Pile driven anchors; • Pile driven OEP foundations; • Other construction activities e.g., cable laying, dredging, trenching etc.; and • All in-combination effects.	• Operational noise; • All in-combination effects.	• Unknown at this stage, expected to be similar to or less than construction.
Collision risk and disturbance from vessels	• Installation and construction related vessel activities; and • All in-combination effects.	• O&M vessel activities; and • All in-combination effects.	• Decommissioning vessel activities; and • All in-combination effects.
Entanglement	-	• Presence of mooring lines and cables; and • All in-combination effects.	-
Barrier effects	-	• Presence of mooring lines and cables; and • All in-combination effects.	-
Changes in water quality	• Release of contaminants; • Increase in suspended sediment; and • All in-combination effects.	• Release of contaminants; • Increase in suspended sediment; and • All in-combination effects.	• Unknown at this stage, expected to be similar to or less than construction.
Indirect impacts on prey species	• Underwater noise from construction activities; • Habitat loss; • EMF; • Release of contaminants; • Increase in suspended sediment; and • All in-combination effects.	• Underwater noise from O&M activities; • Habitat loss; • EMF; • Release of contaminants; • Increase in suspended sediment; and	• Unknown at this stage, expected to be similar to or less than construction.

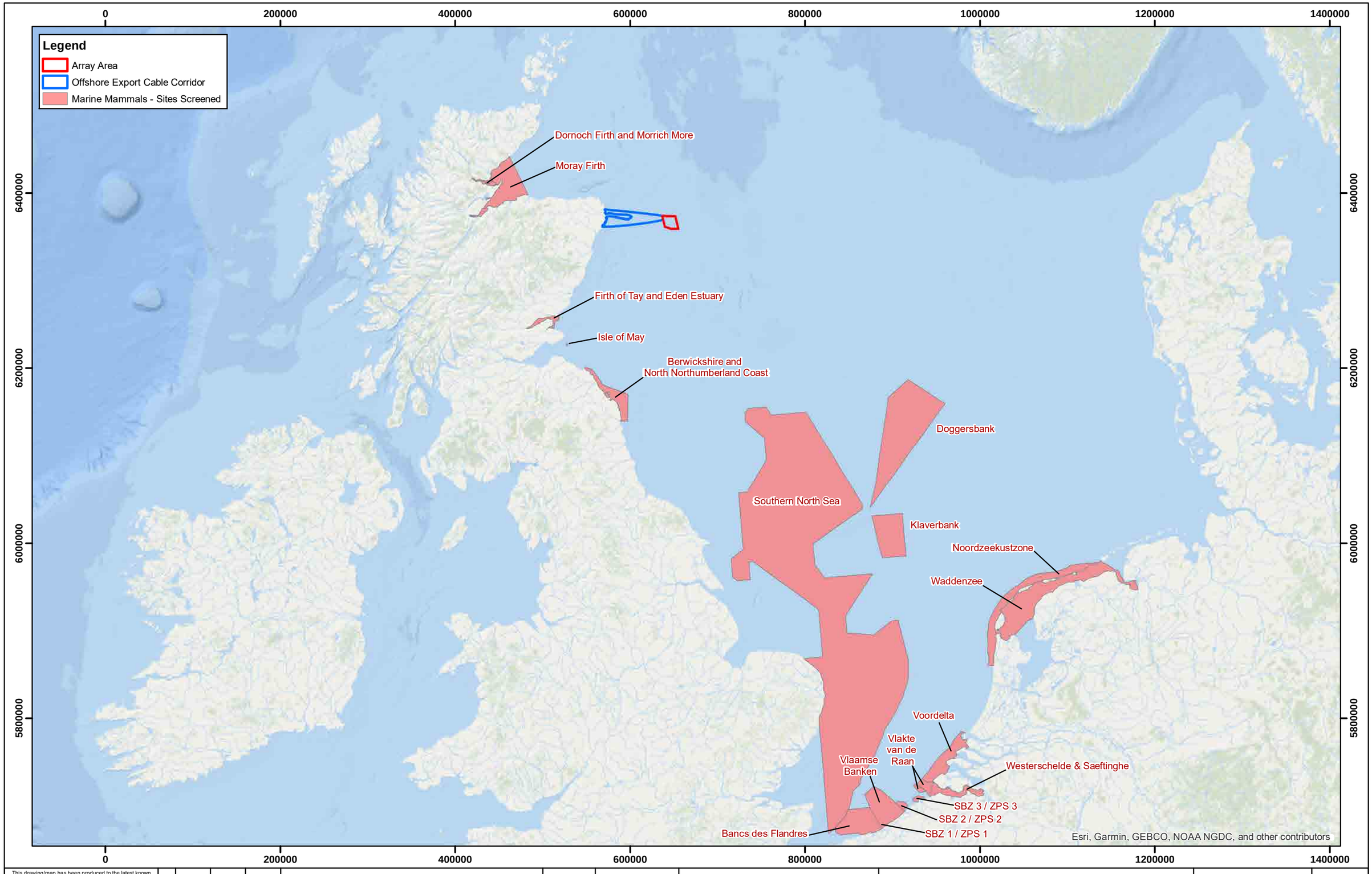
Potential Effect	Activities Potentially Resulting in Effect		
	Construction	O&M	Decommissioning
		• All in-combination effects.	

5.3.2 Table 5.3 presents the assessment for the potential LSE for marine mammals based on the potential effects during construction, O&M and decommissioning described in Table 4.1 and the screening ranges identified in Section 4.3.

Table 5.3: Potential LSE for marine mammals from the proposed development alone.

Designated Site	Management Unit	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Southern North Sea SAC	North Sea	221	243	Harbour porpoise	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species • Entanglement • Barrier effects	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	Site screened out. Site is located beyond the 26 km Effective Deterrence Range (EDR) recommended for significant disturbance to a harbour porpoise SAC (JNCC 2020).	No LSE
Moray Firth SAC	Coastal East Scotland	158.5	102	Bottlenose dolphins	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species • Entanglement • Barrier effects	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	Given the proximity to the site, evidence of connectivity and the nature of effects, impacts on this SAC cannot be screened out at this stage.	Potential for LSE
Firth of Tay and Eden Estuary SAC	East Scotland	157.5	117	Harbour seal	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species • Entanglement • Barrier effects	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	Site screened out. Site is located beyond the recommended 50 km screening distance (NatureScot, Section 4.3).	No LSE
Dornoch Firth and Morrich More SAC	Moray Firth	203	143	Harbour seal	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species • Entanglement • Barrier effects	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	Site screened out. Site is located beyond the recommended 50 km screening distance (NatureScot, Section 4.3).	No LSE

Designated Site	Management Unit	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Isle of May SAC	East Scotland	175	139.5	Grey seal	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species • Entanglement • Barrier effects	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	Site screened out. Site is located beyond the recommended 20 km screening distance (NatureScot, Section 4.3).	No LSE
Berwickshire and North Northumberland Coast SAC	East Scotland	183	162	Grey seal	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species • Entanglement • Barrier effects	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	Site screened out. Site is located beyond the recommended 20 km screening distance (NatureScot, Section 4.3).	No LSE
Transboundary sites for harbour porpoise (Bancs des Flandres SAC; Doggersbank (Netherlands) SAC; Klaverbak SCI; Noordzeekustone SCI; Speciale Beschermingszone (SBZ) 1 SCI; SBZ 2 SCI; SBZ 3 SCI; Vlaamse Banked SCI; Vlakte van de Raan SCI; Voordelta SCI; Waddenzee SCI; and Westerschelde and Saeftinghe SCI)	Various	Various	Various	Harbour porpoise	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species • Entanglement • Barrier effects	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	Given the significant distance of the nearest transboundary site to the Muir Mhòr array area and ECC (closest site is 221 km to offshore works), the development is unlikely to have any significant effect on the features of these sites.	No LSE



This drawing/map has been produced to the latest known information at the time of issue. Please consult with the Vattenfall GIS team to ensure the content is still current before using the information contained on this map.

MUIR MHÒR OFFSHORE WIND FARM

A joint venture between Fred. Olsen Seawind & Vattenfall

Muir Mhòr Offshore Wind Farm Ltd, The Tun Building
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United Kingdom

Rev	Date	Drawn By	Checked By	Comment
A	12/04/23	BPHB	LK	First Issue

Datum	ETRS 1989
Projection	ETRS 1989 UTM Zone 30N
Plot	A3
Scale	1:4,000,000

0 20 40 60 80 100 km

MUIR MHÒR WIND FARM

Marine Mammal Sites Screened into Assessment

Confidentiality Class	C1
Drg No	GoBe-0037
Rev	A
Layout	NA

Figure 5.1

Ref files: MMH_HRA_Fig5.1_MM_Screened_Sites_RevA

5.4 Offshore and Intertidal Ornithology

5.4.1 Potential activities and resulting effects considered for the ornithological receptors are provided in Table 5.4. Details on the proposed methodologies of how these effects will be assessed, where these have been determined, are provided in the Offshore Scoping Report.

Table 5.4: Potential effects considered for offshore and intertidal ornithology.

Potential Effect	Activities Potentially Resulting in Effect		
	Construction	O&M	Decommissioning
Collision risk	-	• Collision with rotating WTG rotors. • All in-combination effects.	-
Disturbance and displacement	• Wet storage of assembled floating turbines. • Installation of structures. • Seabed preparation. • Seabed dredging and sandwave clearance. • Sediment disposal. • Vessel activity. • Installation of scour or cable protection. • UXO detonation / clearance. • All in-combination effects.	• Wet storage of for maintenance activities. • Vessel activity. • All in-combination effects.	• Scope of works currently unknown; however, activities and effects are anticipated to be similar to those during construction.
Barrier effects	-	• Presence of the operating WTGs, including consideration of lighting. • All in-combination effects.	-
Changes to prey	• Generation of underwater noise from construction activities. • UXO detonation / clearance. • Loss of supporting habitats due to activities listed above for “temporal habitat loss and disturbance”. • Vessel activity. • EMF. • All in-combination effects.	• Generation of underwater noise from maintenance activities. • Loss of supporting habitats due to present of installed structures. • Vessel activity. • EMF. • All in-combination effects.	• Scope of works currently unknown; however, activities and effects are anticipated to be similar to those during construction.
Accidental pollution	• Release of contaminants.	• Release of contaminants.	• Scope of works currently unknown; however,

Potential Effect	Activities Potentially Resulting in Effect		
	Construction	O&M	Decommissioning
	• Release of sediment from activities listed above for "temporal habitat loss and disturbance". • All in-combination effects.	• Release of sediment arising from maintenance activities. • All in-combination effects.	activities and effects are anticipated to be similar to those during construction.
Entanglement	-	• Entanglement of diving pursuit foragers with ghost netting fouling the anchorages of floating structures • All in-combination effects.	-

5.4.2 Based on the selection criteria of Table 4.2, Table 5.6 lists the SPAs and Ramsar sites selected for screening (Figure 5.2) and considers the potential effects for ornithological receptors as per Table 5.4.

5.4.3 The potential effects assessments in Table 5.5 refers to each species' sensitivity to disturbance, displacement and collision. Species sensitivity to barrier effects utilises the scores for displacement as a proxy.

5.4.4 Assessment of sensitivity to disturbance and displacement is considered in reference to the joint Statutory Nature Conservation Body (SNCB) guidance (JNCC, 2022), which derives sensitivity scores from Bradbury *et al.,* 2014. From this, displacement and disturbance effects are ruled out for great black-backed gull, lesser black-backed gull, great skua, and fulmar. From review of advice by NatureScot, the decision has been taken to not screen out displacement and disturbance effects based on Table 5.5 for kittiwake, gannet, Manx shearwater, European storm petrel, and Leach's storm petrel. The assessments for Manx shearwater, European storm petrel and Leach's storm petrel will include consideration of potential effects of lighting.

5.4.5 Post-screening impacts on collision and disturbance/displacement will be estimated qualitatively using methods described in the Offshore Scoping Report. These will then be apportioned to relevant SPAs using the Marine Scotland apportioning tool (Butler *et al.,* 2020) for breeding season impact (and for non-breeding season impacts on guillemot), and using the Biologically Defined Minimum Population Scales (BDMPS) report (Furness, 2015) for non-breeding season impacts.

Table 5.5: Sensitivity scores for disturbance, displacement and collision.

Species	Sensitivity to disturbance / displacement from offshore wind farm infrastructure (JNCC, 2022)[5]	Sensitivity to vessel disturbance (Fliessbach *et al., 2019*)[6]	Sensitivity to collision (Bradbury *et al.*, 2019)
Arctic skua	1	Low*	Moderate
Arctic tern	2	1.7	Low
Black-throated diver	5	21.0	Moderate
Common tern	2	1.7	Moderate
Cormorant	4	9.2	Low
European storm petrel	1	Low*	Low
Fulmar	1	2.7	Very low
Gannet	2	4.7	High
Goldeneye	4	Not available	Low
Great black-backed gull	2	3.0	Very high
Great Northern diver	5	21.0 (Black-throated diver) 23.3 (Red-throated diver)	Moderate
Great skua	1	Low*	Moderate
Guillemot	3	6.5	Very low
Herring gull	2	2.3	Very high
Kittiwake	2	3.5	High
Leach's storm petrel	1	Low*	Low
Lesser black-backed gull	2	2.0	Very high
Manx shearwater	1	Low*	Very low
Puffin	2	Low/Moderate*	Very low
Razorbill	3	16.0	Very low
Red-breasted merganser	3	21.7	Low

[5] Score from 1-5, with a higher score inferring a higher sensitivity.

[6] Score from 1-25, with a higher score inferring a higher sensitivity.

Species	Sensitivity to disturbance / displacement from offshore wind farm infrastructure (JNCC, 2022)[5]	Sensitivity to vessel disturbance (Fliessbach *et al., 2019*)[6]	Sensitivity to collision (Bradbury *et al.,* 2019)
Red-throated diver	5	23.3	Moderate
Roseate tern	2	1.7 (using common and Arctic terns as a proxy)	Moderate
Sandwich tern	2	2.0	Moderate
Shag	3	Moderate*	Moderate

**Derived from Furness (2012)*

Table 5.6: Potential LSE for offshore and intertidal ornithology from the proposed development alone.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Buchan Ness to Collieston Coast SPA	Breeding	61.3	0.0	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Buchan Ness to Collieston Coast SPA	Breeding	61.3	0.0	Shag	• Disturbance and displacement (ECC only) • Accidental pollution (ECC only) • Changes to prey (ECC only)	• Disturbance and displacement (ECC only) • Accidental pollution (ECC only) • Changes to prey (ECC only)	• Disturbance and displacement (ECC only) • Accidental pollution (ECC only) • Changes to prey (ECC only)	Array Area and offshore ECC within the recommended foraging range. Offshore ECC within the mean-maximum +1SD foraging range (Woodward *et al.,* 2019). Species sensitive to collision risk (Bradbury *et al.,* 2014). Species sensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision or barrier effects on basis of no connectivity. Potential for LSE identified (ECC activities only) for disturbance and displacement, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Buchan Ness to Collieston Coast SPA	Breeding	61.3	0.0	Guillemot	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species sensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk and entanglement. Species sensitive to changes to prey effects.	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement and changes to prey on basis of connectivity and sensitivity of receptor.
Buchan Ness to Collieston Coast SPA	Breeding	61.3	0.0	Herring gull	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species sensitive to collision risk (Bradbury *et al.,* 2014).	No potential for LSE identified for disturbance and displacement and barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	basis of connectivity and sensitivity of receptor.
Buchan Ness to Collieston Coast SPA	Breeding	61.3	0.0	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Loch of Strathbeg SPA and Ramsar	Breeding	71.06	9.21	Sandwich tern	• Accidental pollution (ECC only) • Changes to prey (ECC only)	• Accidental pollution (ECC only) • Changes to prey (ECC only)	• Accidental pollution (ECC only) • Changes to prey (ECC only)	Array Area and offshore ECC within the recommended foraging range. ECC within the mean-maximum +1SD foraging range (Woodward *et al.,* 2019). Species sensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision or barrier effects on basis of no connectivity. Potential for LSE identified (ECC activities only) for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Loch of Strathbeg SPA and Ramsar	Non-breeding	71.06	9.21	Goldeneye Greylag goose Pink-footed goose Svalbard barnacle goose Teal Whooper swan	-	• Collision	-	Array Area and offshore ECC outwith the foraging range of this species. Species may pass through the array area during annual migration.	No potential for LSE identified for any effect on basis on no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.
Troup, Pennan & Lion's Heads SPA	Breeding	90.5	30.2	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014).	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Troup, Pennan & Lion's Heads SPA	Breeding	90.5	30.2	Guillemot Razorbill	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species sensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution and entanglement risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement and changes to prey on basis of connectivity and sensitivity of receptor.
Troup, Pennan & Lion's Heads SPA	Breeding	90.5	30.2	Herring gull	• Accidental pollution (ECC only) • Changes to prey (ECC only)	• Accidental pollution (ECC only) • Changes to prey (ECC only)	• Accidental pollution (ECC only) • Changes to prey (ECC only)	Array Area outwith the recommended foraging range. Offshore ECC within the recommended foraging range. Species sensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement on basis of insensitivity of receptor. No potential for LSE identified for collision effects on basis of no connectivity. No potential for LSE identified for barrier effects on basis of no connectivity and insensitivity of receptor. Potential for LSE identified (ECC activities only) for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Troup, Pennan & Lion's Heads SPA	Breeding	90.5	30.2	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Fowlsheugh SPA	Breeding	102.0	50.2	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fowlsheugh SPA	Breeding	102.0	50.2	Guillemot Razorbill	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species sensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution and entanglement risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement and changes to prey on basis of connectivity and sensitivity of receptor.
Fowlsheugh SPA	Breeding	102.0	50.2	Herring gull	• Accidental pollution (ECC only) • Changes to prey (ECC only)	• Accidental pollution (ECC only) • Changes to prey (ECC only)	• Accidental pollution (ECC only) • Changes to prey (ECC only)	Array Area outwith the recommended foraging range. Offshore ECC within the recommended foraging range. Species sensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement on basis of insensitivity of receptor. No potential for LSE identified for collision effects on basis of no connectivity. No potential for LSE identified for barrier effects on basis of no connectivity and insensitivity of receptor. Potential for LSE identified (ECC activities only) for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fowlsheugh SPA	Breeding	102.0	50.2	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014).	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
						• Accidental pollution • Changes to prey		Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	basis of connectivity and sensitivity of receptor.
East Caithness Cliffs SPA	Breeding	170.4	116.7	Peregrine	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity
East Caithness Cliffs SPA	Breeding	170.4	116.7	Cormorant Herring gull Great black-backed gull Guillemot Shag	-	-	-	Array Area and offshore ECC outwith the foraging range of this species	No potential for LSE identified for any effect on basis of no connectivity
East Caithness Cliffs SPA	Breeding	170.4	116.7	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC outwith the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
East Caithness Cliffs SPA	Breeding	170.4	116.7	Razorbill	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	Array Area outwith the recommended foraging range. Offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species sensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution and entanglement risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision on basis of insensitivity of receptor and no connectivity. No potential for LSE identified for barrier effects on basis of no connectivity. Potential for LSE identified (ECC activities only) for disturbance and displacement, accidental pollution, entanglement and changes to prey on basis of connectivity and sensitivity of receptor.
East Caithness Cliffs SPA	Breeding	170.4	116.7	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects,

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
						• Barrier effects • Accidental pollution • Changes to prey		barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Forth Islands SPA	Breeding	171.7	139.0	Arctic tern Common tern Cormorant Herring gull Guillemot Razorbill Roseate tern Sandwich tern Shag	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity
Forth Islands SPA	Breeding	171.7	139.0	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Forth Islands SPA	Breeding	171.7	139.0	Lesser black-backed gull	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species sensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement and barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Forth Islands SPA	Breeding	171.7	139.0	Puffin	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution	• Disturbance and displacement • Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species sensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects)	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
						• Changes to prey • Entanglement		from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution and entanglement risk. Species sensitive to changes to prey effects.	
Forth Islands SPA	Breeding	171.7	139.0	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Caithness Cliffs SPA	Breeding	182.1	134.0	Peregrine	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity
North Caithness Cliffs SPA	Breeding	182.1	134.0	Guillemot Razorbill	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity
North Caithness Cliffs SPA	Breeding	182.1	134.0	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Caithness Cliffs SPA	Breeding	182.1	134.0	Puffin	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species sensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution and entanglement risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
North Caithness Cliffs SPA	Breeding	182.1	134.0	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement , barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Copinsay SPA	Breeding	191.2	153.6	Great black-backed gull Guillemot	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity
Copinsay SPA	Breeding	191.2	153.6	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Copinsay SPA	Breeding	191.2	153.6	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Scapa Flow SPA	Non-breeding	193.3	151.3	Shag	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Scapa Flow SPA	Non-breeding	193.3	151.3	Black-throated diver Eider Great northern diver Long-tailed duck	-	• Collision	-	Array Area and offshore ECC outwith the recommended foraging range. Species may pass through the array area during annual migration.	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
				Red-breasted merganser Red-throated diver Slavonian grebe					
Inner Moray Estuary SPA and Ramsar	Breeding	199.55	139.8	Common tern Osprey	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Inner Moray Estuary SPA and Ramsar	Non-breeding	199.55	139.8	Bar-tailed godwit Cormorant Curlew Goldeneye Goosander Greylag goose Oystercatcher Red-breasted merganser Redshank Scaup Teal	-	• Collision		Array Area and offshore ECC outwith the recommended foraging range. Species may pass through the array area during annual migration.	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.
Dornoch Firth and Loch Fleet SPA and Ramsar	Breeding	187.38	127.72	Osprey	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Dornoch Firth and Loch Fleet SPA and Ramsar	Non-breeding	187.38	127.72	Bar-tailed godwit Curlew Dunlin Greylag goose Oystercatcher Redshank Scaup Teal	-	• Collision	-	Array Area and offshore ECC outwith the recommended foraging range. Species may pass through the array area during annual migration.	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.
Cromarty Firth SPA and Ramsar	Breeding	202.42	142.78	Common tern Osprey	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Cromarty Firth SPA and Ramsar	Non-breeding	202.42	142.78	Bar-tailed godwit Curlew	-	• Collision	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
				Dunlin Greylag goose Knot Oystercatcher Pintail Red-breasted merganser Redshank Scaup Whooper swan Wigeon				Species may pass through the array area during annual migration.	Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.
Inner Firth of Forth SPA	Non-breeding	168.84	131.58	Bar-tailed godwit Common scoter Cormorant Curlew Dunlin Eider Golden plover Goldeneye Great crested grebe Grey plover Knot Lapwing Long-tailed duck Mallard Oystercatcher Pink-footed goose Red-breasted merganser Red-throated diver Redshank Ringed plover Scaup Shelduck Slavonian grebe	-	• Collision	-	Array Area and offshore ECC outwith the recommended foraging range. Species may pass through the array area during annual migration.	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
				Turnstone Velvet scoter Wigeon					
Inner Firth of Forth SPA	Passage	168.94	139.87	Sandwich tern	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity
Auskerry SPA	Breeding	203.07	168.58	Arctic tern	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity
Auskerry SPA	Breeding	203.07	168.58	European storm petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hoy SPA	Breeding	206.08	159.51	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hoy SPA	Breeding	206.08	159.51	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey •	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Hoy SPA	Breeding	206.08	159.51	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hoy SPA	Breeding	206.08	159.51	Puffin	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species sensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution and entanglement risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement and changes to prey on basis of connectivity and sensitivity of receptor.
Hoy SPA	Breeding	206.08	159.51	Arctic skua Great black-backed gull Guillemot Peregrine falcon Red-throated diver	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Calf of Eday SPA	Breeding	220.03	191.53	Cormorant Great black-backed gull Guillemot	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Calf of Eday SPA	Breeding	220.03	191.53	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014).	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	
Calf of Eday SPA	Breeding	220.03	191.53	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fair Isle SPA	Breeding	228.6	214.44	Arctic skua Arctic tern Fair Isle wren Guillemot Puffin Razorbill Shag	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Fair Isle SPA	Breeding	228.6	214.44	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fair Isle SPA	Breeding	228.6	214.44	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Fair Isle SPA	Breeding	228.6	214.44	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey •	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor
Fair Isle SPA	Breeding	228.6	214.44	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fair Isle SPA	Breeding	228.6	214.44	Puffin	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species sensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution and entanglement risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement and changes to prey on basis of connectivity and sensitivity of receptor.
Rousay SPA	Breeding	229.37	191.85	Arctic skua Arctic tern Guillemot	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Rousay SPA	Breeding	229.37	191.85	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects)	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	
Rousay SPA	Breeding	229.37	191.85	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
West Westray SPA	Breeding	238.24	238.25	Arctic skua Arctic tern Guillemot Razorbill	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
West Westray SPA	Breeding	238.24	238.25	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
West Westray SPA	Breeding	238.24	238.25	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Marwick Head SPA	Breeding	243.73	202.29	Guillemot	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Marwick Head SPA	Breeding	243.73	202.29	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Sumburgh Head SPA	Breeding	263.36	254.4	Arctic tern Guillemot	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Sumburgh Head SPA	Breeding	263.36	254.4	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Sumburgh Head SPA	Breeding	263.36	25.4	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas off Foula SPA	Breeding	269.33	254.64	Arctic skua Guillemot Puffin	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Seas off Foula SPA	Breeding	269.33	254.64	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to disturbance and displacement (and	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	basis of connectivity and sensitivity of receptor.
Seas off Foula SPA	Breeding	269.33	254.64	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas off Foula SPA	Non-breeding	269.33	254.64	Great skua Fulmar Guillemot	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Sule Skerry and Sule Stack SPA	Breeding	280.51	232.57	Guillemot Puffin Shag	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Sule Skerry and Sule Stack SPA	Breeding	280.51	232.57	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Sule Skerry and Sule Stack SPA	Breeding	280.51	232.57	Leach's petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								et al., 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	
Sule Skerry and Sule Stack SPA	Breeding	280.51	232.57	European storm petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Cape Wrath SPA	Breeding	291.12	291.56	Guillemot Puffin Razorbill	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Cape Wrath SPA	Breeding	291.12	291.56	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Cape Wrath SPA	Breeding	291.12	291.56	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Noss SPA	Breeding	294.37	288.96	Guillemot Kittiwake Puffin	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Noss SPA	Breeding	294.37	288.96	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Noss SPA	Breeding	294.37	288.96	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Noss SPA	Breeding	294.37	288.96	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Noss SPA	Breeding	294.37	288.96	Guillemot	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Noss SPA	Breeding	294.37	288.9281.66	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
						• Accidental pollution • Changes to prey		barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	basis of connectivity and sensitivity of receptor.
Foula SPA	Breeding	299.73	281.66	Arctic skua Arctic tern Guillemot Puffin Razorbill Red-throated diver Shag	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Foula SPA	Breeding	299.73	281.66	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Foula SPA	Breeding	299.73	281.66	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Foula SPA	Breeding	299.73	281.66	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Foula SPA	Breeding	299.73	281.66	Leach's petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Handa SPA	Breeding	331.37	285.46	Guillemot Kittiwake	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Handa SPA	Breeding	331.37	285.46	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Handa SPA	Breeding	331.37	285.46	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fetlar SPA	Breeding	340.81	337.69	Arctic skua Arctic tern Dunlin Red-necked phalarope	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Fetlar SPA	Breeding	340.81	337.69	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fetlar SPA	Breeding	340.81	337.69	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Flamborough and Filey Coast SPA	Breeding	343.9	343.89	Razorbill Kittiwake Guillemot	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Flamborough and Filey Coast SPA	Breeding	343.9	343.89	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Rona and Sula Sgeir SPA	Breeding	355.68	308.8	Great black-backed gull Guillemot Kittiwake Puffin Razorbill	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
North Rona and Sula Sgeir SPA	Breeding	355.68	308.8	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Rona and Sula Sgeir SPA	Breeding	355.68	308.8	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Rona and Sula Sgeir SPA	Breeding	355.68	308.8	Leach's petrel European storm petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hermaness, Saxa Vord and Valla Field SPA	Breeding	361.8	369.58	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014).	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	
Hermaness, Saxa Vord and Valla Field SPA	Breeding	361.8	369.58	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hermaness, Saxa Vord and Valla Field SPA	Breeding	361.8	369.58	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al., 2019*). Species insensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hermaness, Saxa Vord and Valla Field SPA	Breeding	361.8	369.58	Guillemot Kittiwake Puffin Red-throated diver Shag	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Shiant Isles SPA	Breeding	412.69	366.39	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Shiant Isles SPA	Breeding	412.69	366.39	Guillemot Puffin Kittiwake	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
				Razorbill Shag					
Flannan Isles SPA	Breeding	455.41	408.53	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al*., 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Flannan Isles SPA	Breeding	455.41	408.53	Leach's petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Flannan Isles SPA	Breeding	455.41	408.53	Kittiwake Guillemot Razorbill Puffin	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
Seas off St Kilda mSPA	Breeding	485.41	424.2	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								Species sensitive to changes to prey effects.	
Seas off St Kilda mSPA	Breeding	485.41	424.2	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas off St Kilda mSPA	Breeding	485.41	424.2	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014) Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas off St Kilda mSPA	Breeding	485.41	424.2	European storm petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas of St Kilda mSPA	Breeding	485.41	424.2	Guillemot Kittiwake Puffin	-	-	-	Array Area and offshore ECC outwith the recommended foraging range.	No potential for LSE identified for any effect on basis of no connectivity.
For all designated sites which are beyond the recommended foraging range of gannet (509.4km) from the proposed development, only SPA features with recommended foraging ranges greater than the distance between the designated site and the proposed development are listed (below) in this screening table. All other SPA features are considered not to have connectivity with the proposed development and, as such, no potential for LSE is identified for these features.									

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Rum SPA	Breeding	516.06	468.57	Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
St Kilda SPA	Breeding	523.18	476.17	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
St Kilda SPA	Breeding	523.18	476.17	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019), but sensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
St Kilda SPA	Breeding	523.18	476.17	European storm petrel Leach's petrel Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

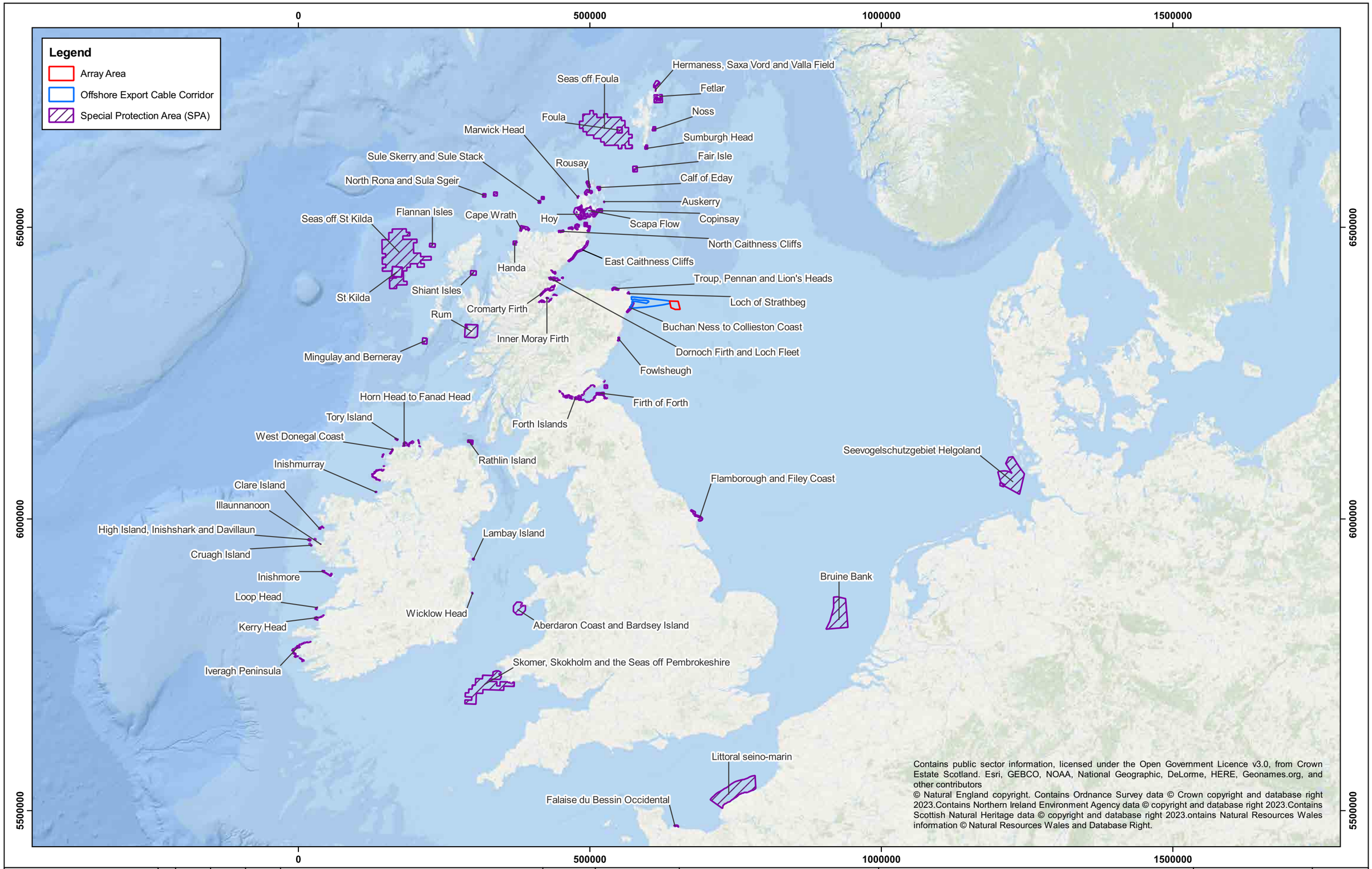
Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								et al., 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	
St Kilda SPA	Breeding	523.18	476.17	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Mingulay and Berneray SPA	Breeding	557.61	508.26	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seevogelschutzgebiet Helgoland SPA	Breeding	610.66	610.66	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Horn Head to Fanad Head SPA	Breeding	719.71	675.09	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects)	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	
Tory Island SPA	Breeding	731.34	987.32	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
West Donegal Coast SPA	Breeding	748.72	703.49	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Littoral seino-marin SPA	Breeding	828.74	865.68	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Clare Island SPA	Breeding	940.68	895.03	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014).	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
								Species insensitive to disturbance from vessel activity (Fliessbach *et al., 2019*) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Lambay Island SPA	Breeding	943.23	898.54	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
High Island, Inishshark and Davillaun SPA	Breeding	956.61	910.57	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Falaise du Bessin Occidental SPA	Breeding	966.33	1002.07	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Cruagh Island SPA	Breeding	967.93	921.29	Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Glannau Aberdaron ac Ynys Enlli / Aberdaron Coast and Bardsey Island SPA	Breeding	1014.13	967.26	Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019). Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Kerry Head SPA	Breeding	1092.67	1046.08	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Skomer, Skokholm and the Seas off Pembrokeshire SPA	Breeding	1130.23	1082.9	Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019).	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor.

Designated Site	Breeding/ Non-breeding	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects (Screened in)			Assessment of LSE	Conclusion of LSE
		Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
						• Accidental pollution • Changes to prey		Species insensitive to collision risk (Bradbury *et al.,* 2014). Sensitivity classed as low to disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014), but this is screened in based on recent NatureScot opinion. Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	Potential from LSE identified for disturbance and displacement, barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Iveragh Peninsula SPA	Breeding	1130.23	1100.37	Fulmar	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	Array Area and offshore ECC within the recommended foraging range. Species insensitive to collision risk (Bradbury *et al.,* 2014). Species insensitive to disturbance from vessel activity (Fliessbach *et al.,* 2019) and disturbance and displacement (and associated barrier effects) from offshore wind farm infrastructure (Bradbury *et al.,* 2014). Species sensitive to accidental pollution risk. Species sensitive to changes to prey effects.	No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.



This drawing/map has been produced to the latest known information at the time of issue. Please consult with the Vattenfall GIS team to ensure the content is still current before using the information contained on this map.

MUIR MHÒR OFFSHORE WIND FARM

A joint venture between Fred. Olsen Seawind & Vattenfall

Muir Mhòr Offshore Wind Farm Ltd, The Tun Building
4 Jackson's Entry, Holyrood Road, No 4 EH8 8PJ Edinburgh
United Kingdom

Rev	Date	Drawn By	Checked By	Comment
C	11/05/23	JO	CP	Third Issue
B	01/05/23	JO	CP	Second Issue
A	04/04/23	JO	FM	First Issue

Datum	ETRS 1989
Projection	ETRS 1989 UTM Zone 30N
Plot	A3
Scale	1:6,000,000

0 40 80 120 160 200 km

MUIR MHÒR WIND FARM

Offshore and Intertidal Ornithology Sites Screened into Assessment

Confidentiality Class	C1
Drg No	GB204098_M_020
Rev	C
Layout	NA

Figure 5.2

Ref files: GB204098_M_020_D

5.5 Migratory Fish

5.5.1 The study area for migratory fish for the proposed development with respect to HRA Stage 1 is defined by a precautionary range of 100 km from the proposed development to the relevant site boundary, with the addition of remaining SACs for Atlantic salmon, freshwater pearl mussel, sea lamprey and river lamprey. Table 5.7 presents the potential effects considered for the migratory fish receptors identified.

5.5.2 Based on the potential effects described in Table 5.7 and the screening range considered in Section 4.5, there are several designated sites which have been identified with a potential for LSE. These are presented within Table 5.8 along with the assessment and conclusions of the Stage 1 Screening process. All sites considered in the below screening table are depicted in Figure 5.3.

Table 5.7: Migratory fish receptor group potential effects.

Potential Effect	Activities Potentially Resulting in Effect		
	Construction	O&M	Decommissioning
Underwater noise	• Generation of underwater noise from construction activities (including piling of OEPs; • Vessel movements; and • All in-combination effects.	• Generation of underwater noise from maintenance activities; • Loss of supporting habitats; • Vessel movements; • EMF; and • All in-combination effects.	• Scope of works currently unknown; however, anticipated to be similar to those during construction
Suspended sediment/ deposition	• Installation of structures (e.g., piling); • Seabed preparation; • Seabed dredging and sandwave clearance; • Sediment disposal; • Cable installation; and • All in-combination effects	• Maintenance of structures; and • All in-combination effects	• Scope of works currently unknown; however, anticipated to be similar to those during construction
Accidental pollution	• Release of contaminants; • Release of sediment; and • All in-combination effects	• Release of contaminants; • Release of sediment; and • All in-combination effects	• Scope of works currently unknown; however, anticipated to be similar to those during construction
EMF	-	• Generation of EMF from installed cables	-
INNS	• Vessel movements on and off site; • Installation of solid structures; and • All in-combination effects.	• Vessel movements on and off site; • Maintenance activities; • Presence of solid structures; and	• Scope of works currently unknown; however, anticipated to be similar to those during construction

Potential Effect	Activities Potentially Resulting in Effect		
	Construction	O&M	Decommissioning
		• All in-combination effects.	
Physical habitat loss/ disturbance	• Installation of structures; • Seabed preparation; • Seabed dredging; • Sediment disposal; • Vessel movements/ anchoring; and • All in-combination effects	• Maintenance of structures; and • All in-combination effects	• Scope of works currently unknown; however, anticipated to be similar to those during construction
Changes to prey	• Generation of underwater noise from construction activities; • Loss of supporting habitats; • Vessel movements; • EMF; and • All in-combination effects.	• Generation of underwater noise from maintenance activities; • Loss of supporting habitats; • Vessel movements; • EMF; and • All in-combination effects.	• Scope of works currently unknown; however, anticipated to be similar to those during construction

Table 5.8: Potential for LSE for migratory fish receptors from the proposed development alone.

Designated Site	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects			Assessment of LSE	Conclusion of LSE
	Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Berriedale and Langwell Waters SAC	182.41	121.12	Atlantic salmon (*Salmo salar*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
Endrick Water SAC	258.85	204.84	Atlantic salmon (*Salmo salar*) River lamprey (*Lampetra fluviatilis)*	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
Langavat SAC	362.63	296.53	Atlantic salmon (*Salmo salar*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE

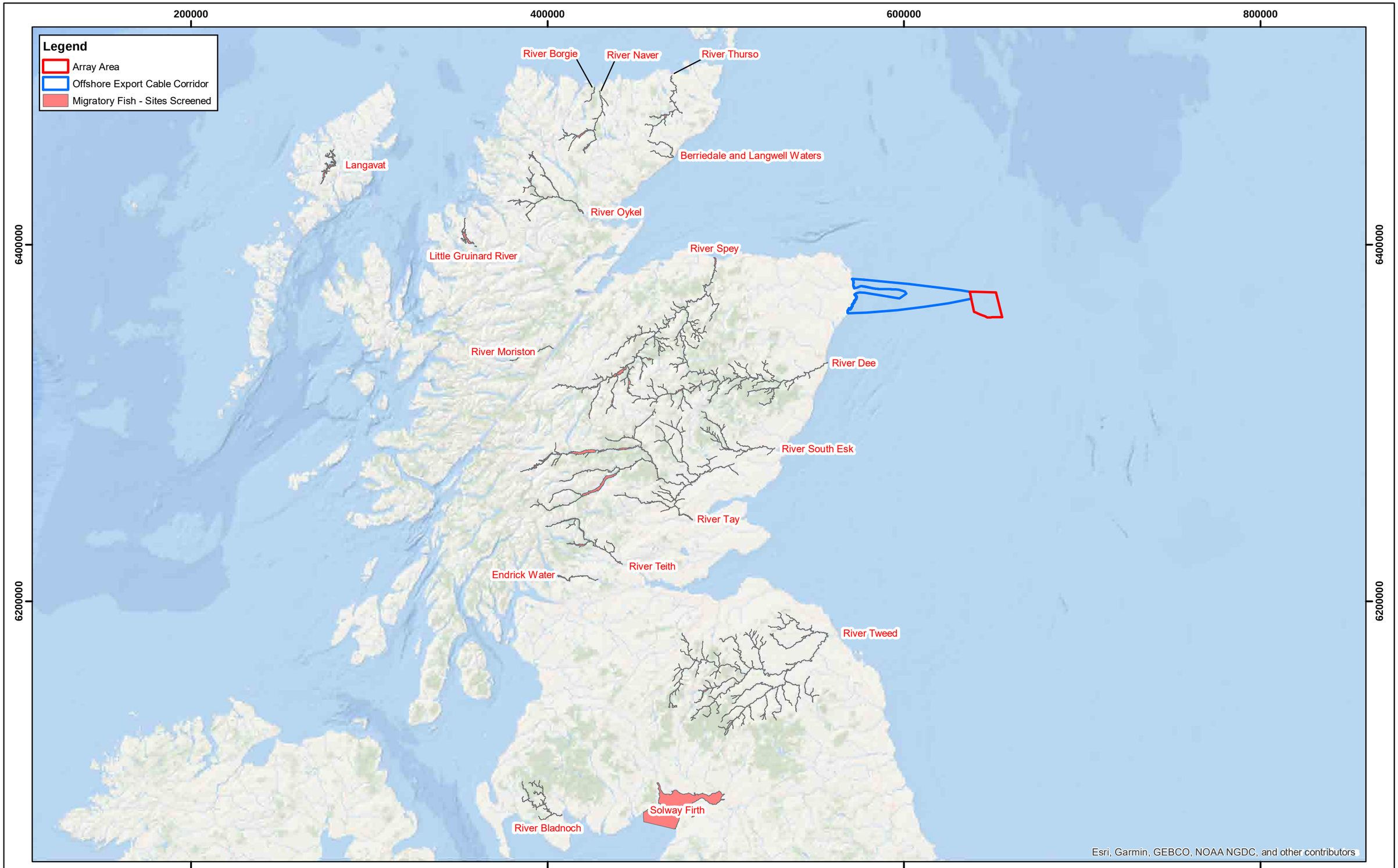
Designated Site	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects			Assessment of LSE	Conclusion of LSE
	Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Little Gruinard River SAC	277.71	211.17	Atlantic salmon (*Salmo salar*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Bladnoch SAC	358.43	314.06	Atlantic salmon (*Salmo salar*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Borgie SAC	238.07	177.45	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Dee SAC	86.89	29.94	Atlantic salmon (*Salmo salar*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE

Designated Site	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects			Assessment of LSE	Conclusion of LSE
	Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
			Freshwater pearl mussel (*Margaritifera margaritifera*)	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Moriston SAC	235.62	166.22	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Naver SAC	226.08	163.25	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Oykel SAC	221.01	155.00	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution	• Suspended sediment/ deposition • Accidental pollution	• Suspended sediment/ deposition • Accidental pollution	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE

Designated Site	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects			Assessment of LSE	Conclusion of LSE
	Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
				• INNS • Physical habitat loss/ disturbance • Changes to prey	• EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• INNS • Physical habitat loss/ disturbance • Changes to prey		
River South Esk SAC	135.21	85.98	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Spey SAC	140.80	72.23	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*) Sea lamprey (*Petromyzon marinus*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Tay SAC	159.16	105.72	Atlantic salmon (*Salmo salar*) River lamprey (*Lampetra fluviatilis)* Sea lamprey (*Petromyzon marinus*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE

Designated Site	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects			Assessment of LSE	Conclusion of LSE
	Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
				• Changes to prey	• Physical habitat loss/ disturbance • Changes to prey	• Changes to prey		
River Teith SAC	241.04	185.06	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*) River lamprey (*Lampetra fluviatilis*) Sea lamprey (*Petromyzon marinus*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Thurso SAC	189.75	132.93	Atlantic salmon (*Salmo salar*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE
River Tweed SAC	197.80	172.25	Atlantic salmon (*Salmo salar*) River lamprey (*Lampetra fluviatilis)* Sea lamprey (*Petromyzon marinus*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE

Designated Site	Distance to Designated Site		Feature(s) to consider for Assessment of No LSE	Potential Effects			Assessment of LSE	Conclusion of LSE
	Array Area (km)	Offshore ECC (km)		Construction	O&M	Decommissioning		
Solway Firth SAC	304.31	277.51	River lamprey (*Lampetra fluviatilis)* Sea lamprey (*Petromyzon marinus*)	• Underwater noise	• Underwater noise	• Underwater noise	Given the potential of migratory movements around Scotland and wide-reaching nature of underwater noise, there is a potential connectivity and pathway for effect for designated features of this site.	Potential for LSE
				• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • EMF • INNS • Physical habitat loss/ disturbance • Changes to prey	• Suspended sediment/ deposition • Accidental pollution • INNS • Physical habitat loss/ disturbance • Changes to prey	Given the distance to site and the highly localised nature of effects, it is considered that there is no pathway for effect for designated features of this site.	No potential for LSE



This drawing/map has been produced to the latest known information at the time of issue. Please consult with the Vattenfall GIS team to ensure the content is still current before using the information contained on this map.

MUIR MHÒR OFFSHORE WIND FARM

A joint venture between Fred. Olsen Seawind & Vattenfall

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4 Jackson's Entry, Holyrood Road, No 4 EH8 8PJ Edinburgh
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Rev	Date	Drawn By	Checked By	Comment
A	12/04/23	SWM	LK	First Issue

Datum	ETRS 1989
Projection	ETRS 1989 UTM Zone 30N
Plot	A3
Scale	1:2,000,000

0 10 20 30 40 50 km

MUIR MHÒR WIND FARM

Migratory Fish Sites Screened into Assessment

Confidentiality Class	C1
Drg No	GoBe-0038
Rev	A
Layout	NA

Figure 5.3

Ref files: MMH_HRA_Fig5.3_MF_Screened_Sites_RevA

6 Screening undertaken for the Proposed Development In-Combination

6.1 Approach to Screening In-Combination

6.1.1 The Habitats Regulations include a requirement for the Competent Authority to make the AA alone and in-combination with other reasonably foreseeable plans or projects, where these are not directly connected with or necessary to the management of the site. Screening for the proposed development alone is undertaken above in Section 5, with screening in-combination provided here.

6.1.2 For screening, there is a presumption that where it has not been possible to objectively determine no LSE for the proposed development alone, then potential LSE in-combination also exists. Additionally, where it is possible to conclude no LSE from the project alone, there is still a potential for LSE to exist in-combination and therefore effects that are screened out alone are also considered in-combination. However, where a theoretical pathway exists but there is no conceivable way that this could result in any tangible effect on a qualifying feature of a European site the assessment has concluded this to be an 'inconsequential effect'. Inconsequential effects include those which are trivial in terms of scale, extent, duration and magnitude. An effect pathway that is considered to be inconsequential is considered to be immaterial due to its inconsequential or 'trivial' scale and would not result in a real risk to the European site's conservation objectives. Should any such instances be identified subsequently (e.g., during consultation or because of project specific assessments) then in-combination screening will be updated for the RIAA.

6.1.3 In-combination impacts of the proposed development will be assessed to identify where there could be an accumulation of effects on each designated site. These impacts consider other (proposed) developments within the context of the site and any other reasonably foreseeable proposals in the vicinity including:

- projects that are under construction;
- permitted application(s) not yet implemented;
- submitted application(s) not yet determined;
- all refusals subject to appeal procedures not yet determined; and
- projects identified in any relevant development plans (and emerging development plans - with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited and the degree of uncertainty which may be present; and

6.1.4 It is proposed that projects that are built and operational at the time the site was designated have been classified as part of the baseline conditions. For those projects that were/are only partially constructed at the time of assessment or have only recently been completed, the full extent of the impacts arising from the development(s) may not be known and will therefore be included within the in-combination assessment. Additionally, it is proposed that projects which have become operational since the site was designated will be included in the in-combination assessment only if the project continues to generate effects with a pathway for effect during operation. Such projects will be considered in the in-combination assessment on a feature-by-feature basis i.e. where a pathway exists.

6.1.5 In assessing the potential in-combination impact(s) for the proposed development, it is important to bear in mind that for some projects, predominantly those 'proposed' or identified in development plans etc. may or may not actually be taken forward. There is thus a need to

build in some consideration of certainty (or uncertainty) with respect to the potential impacts which might arise from such proposals. For this reason, all relevant projects/plans considered in-combination alongside the proposed development will be reviewed to reflect their stage within the planning and development process. This allows the in-combination assessment to present several future development scenarios, each with a differing potential for being ultimately built out. A full review of such plans and projects will be conducted for the proposed development and will be incorporated into the draft RIAA at that stage. The types of plans and projects that will be considered will include (but not be limited to) the following:

- Offshore:
  - Relevant renewable energy developments;
  - Relevant offshore oil and gas developments;
  - Relevant pipelines and cable developments;
  - Relevant port and harbour activities (including capital and maintenance dredging);
  - Relevant marine disposal sites;
  - Relevant marine dredging sites; and
  - Coastal protection works.
- Onshore:
  - Onshore windfarms; and
  - Other energy generation infrastructure.
  - Any onshore components of the Muir Mhòr Project.

6.1.6 The potential for an in-combination effect will also depend on factors such as timing of works and specifics of works, as not all plans and projects will result in an in-combination effect. Potential plans and projects to include in-combination will therefore be identified for each site screened in alone and in the context of the potential for both the Project and that plan or project(s) to result in an in-combination effect.

6.1.7 To generate an initial long list of projects for consideration within the HRA, a precautionary list of distances for each industry sector has been applied for identification of relevant projects which have the potential to have an in-combination effect. The long list of projects will be refined based on the rationale outlined below for each relevant environmental receptor (see Sections 6.2 to 6.5 below).

6.1.8 As stated above, the in-combination assessment is based on the presumption that where it has not been possible to objectively determine no LSE for the proposed development alone, then potential LSE in-combination applies. Where a pathway for effect exists, even where a conclusion of no LSE has been reached, the potential for LSE in-combination will still be considered as described in paragraph 6.1.2. Those designated sites considered for the in-combination assessment are presented below in Table 6.1.

Table 6.1: Designated sites screened in for the proposed development in-combination.

Receptor Group	Designated Sites Considered In-Combination
Benthic subtidal and intertidal ecology	No sites screened in for the proposed development in-combination
Marine mammal ecology	Southern North Sea SAC
	Moray Firth SAC
	Firth of Tay and Eden Estuary SAC
	Dornoch Firth and Morrich More SAC
	Isle of May SAC
	Berwickshire and North Northumberland Coast SAC
	Bancs des Flandres SCA
	Doggersbank (Netherlands) SAC
	Klaverbak SCI
	Noordzeekustone SCI
	SBZ 1 SCI
	SBZ 2 SCI
	SBZ 3 SCI
	Vlaamse Banked SCI
	Vlakte van de Raan SCI
	Voordelta SCI
	Waddenzee SCI
	Westerschelde and Saeftinghe SCI
Offshore and intertidal ornithology	Buchan Ness to Collieston Coast SPA
	Loch of Strathbeg SPA and Ramsar
	Troup, Pennan & Lion's Heads SPA
	Fowlsheugh SPA
	East Caithness Cliffs SPA
	Forth Islands SPA
	North Caithness Cliffs SPA

Receptor Group	Designated Sites Considered In-Combination
	Copinsay SPA
	Scapa Flow SPA
	Inner Moray Estuary SPA and Ramsar
	Dornoch Firth and Loch Fleet SPA and Ramsar
	Cromarty Firth SPA and Ramsar
	Inner Firth of Forth SPA
	Auskerry SPA
	Hoy SPA
	Calf of Eday SPA
	Fair Isle SPA
	Rousay SPA
	West Westray SPA
	Marwick Head SPA
	Sumburgh Head SPA
	Seas off Foula SPA
	Sule Skerry and Sule Stack SPA
	Cape Wrath SPA
	Noss SPA
	Foula SPA
	Handa SPA
	Fetlar SPA
	Flamborough and Filey Coast SPA
	North Rona and Sula Sgeir SPA
	Hermaness, Saxa Vord and Valla Field SPA
	Shiant Isles SPA
	Flannan Isles SPA
	Seas of St Kilda mSPA

Receptor Group	Designated Sites Considered In-Combination
	Rum SPA
	St Kilda SPA
	Mingulay and Berneray SPA
	Seevogelschutzgebiet Helgoland SPA
	Horn Head to Fanad Head SPA
	Tory Island SPA
	West Donegal Coast SPA
	Littoral seino-marin SPA
	Clare Island SPA
	Lambay Island SPA
	High Island, Inishshark and Davillaun SPA
	Falaise du Bessin Occidental SPA
	Cruagh Island SPA
	Glannau Aberdaron ac Ynys Enlli / Aberdaron Coast and Bardsey Island SPA
	Kerry Head SPA
	Skomer, Skokholm and the Seas off Pembrokeshire SPA
	Iveragh Peninsula SPA
Migratory fish	Berriedale and Langwell Waters SAC
	Endrick Water SAC
	Langavat SAC
	Little Gruinard River SAC
	River Bladnoch SAC
	River Borgie SAC
	River Dee SAC
	River Moriston SAC
	River Naver SAC
	River Oykel SAC

Receptor Group	Designated Sites Considered In-Combination
	River South Esk SAC
	River Spey SAC
	River Tay SAC
	River Thurso SAC
	River Teith SAC
	River Tweed SAC
	Solway Firth SAC

6.2 Benthic Subtidal and Intertidal Ecology

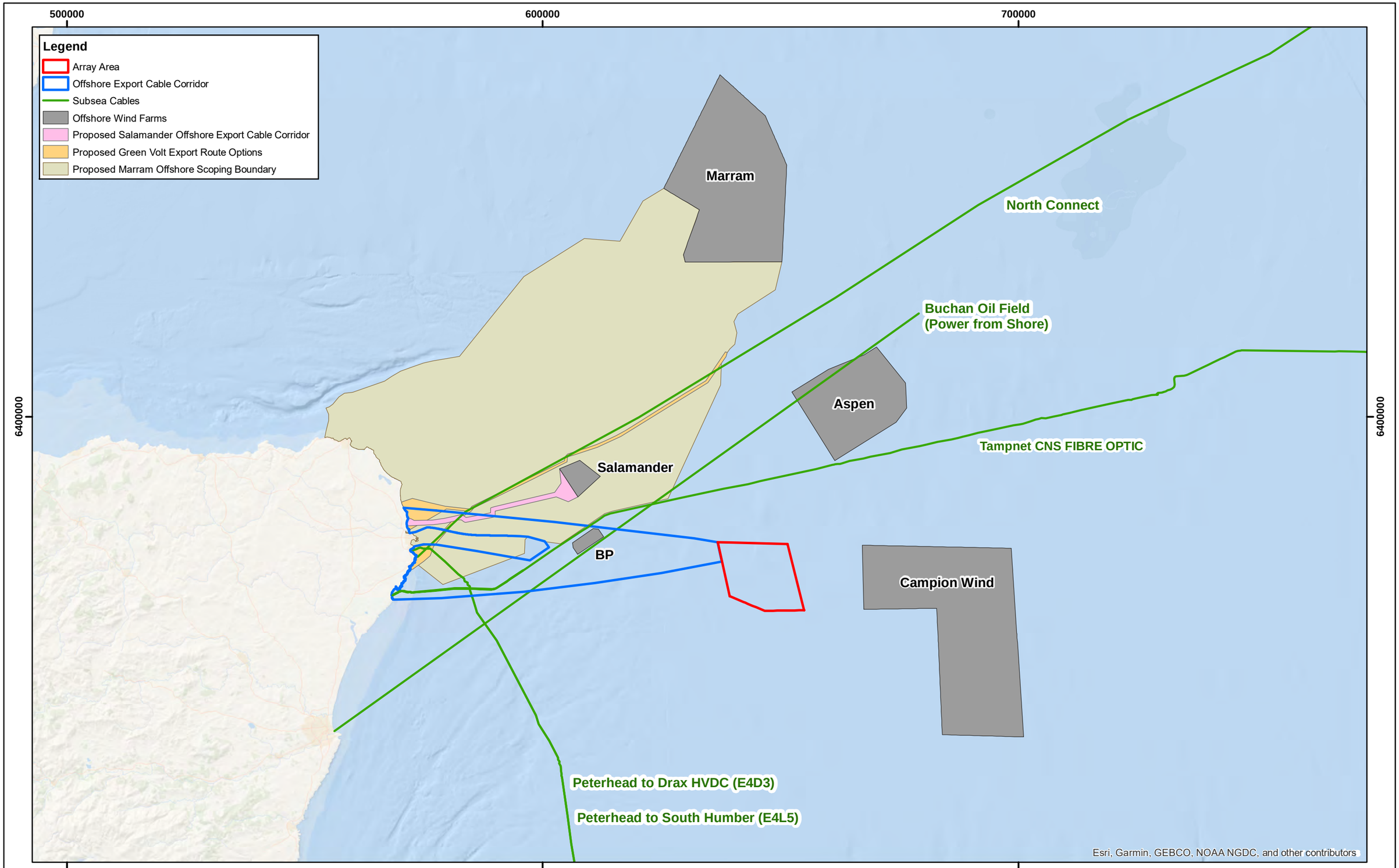
6.2.1 The potential for LSE in-combination for benthic subtidal and intertidal ecology will be determined based on the following:

- A plan or project which is located within sufficient proximity (20 km) to the designated site; this is based on the maximum potential zone of influence associated with increased suspended sediment. It is based on a precautionary estimate in the absence of site-specific physical processes assessment and will be refined down following assessment of site-specific conditions.

6.2.2 Based on the above criteria and similar project screening reports, the plans and projects proposed to be screened in for the benthic subtidal and intertidal ecology in-combination assessment are presented in Table 6.2 (also see Figure 6.1).

Table 6.2: Projects identified for consideration in-combination with the proposed development with respect to benthic subtidal and intertidal ecology receptors.

OWFs	OWF Cables	Subsea Cables
Aspen (INTOG)	Green Volt (INTOG) Cable	Buchan Oil Field (Power from Shore)
BP (INTOG)	MarramWind Cable	NorthConnect Interconnector
CampionWind	Salamander (INTOG) Cable	Peterhead to South Humber (E4L5)
MarramWind		Peterhead to Drax High Voltage Direct Current (HVDC) (E4D3)
Salamander (INTOG)		Tampnet CNS Fibre Optic



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Scale	1:750,000

0 4 8 12 16 20 km

MUIR MHÒR WIND FARM

In-Combination Projects Identified for Benthic Subtidal and Intertidal Ecology

Confidentiality Class	C1
Drg No	GoBe-0039
Rev	A
Layout	NA

Figure 6.1

Ref files: MMH_HRA_Fig6.1_ICPs_Benthic_Ecology_RevA

6.3 Marine Mammal Ecology

6.3.1 The potential for LSE in-combination for marine mammals will be determined based on the following:

- A plan or project where there is potential for the impacts of the construction and O&M phases to have a temporal and/or spatial overlap with that of the proposed development and the plan or project is within the relevant range to the designated site (a species dependent range).

6.3.2 The relevant ranges for each considered species are as follows:

- Harbour porpoise: North Sea MU;
- Bottlenose dolphin: Coastal East Scotland MU & Greater North Sea MU;
- Harbour seal: 50 km; and
- Grey seal: 20 km.

6.3.3 Based on the above criteria and similar project screening reports, the plans and projects proposed to be screened in for the marine mammal in-combination assessment are presented in Table 6.3 (also see Figure 6.2).

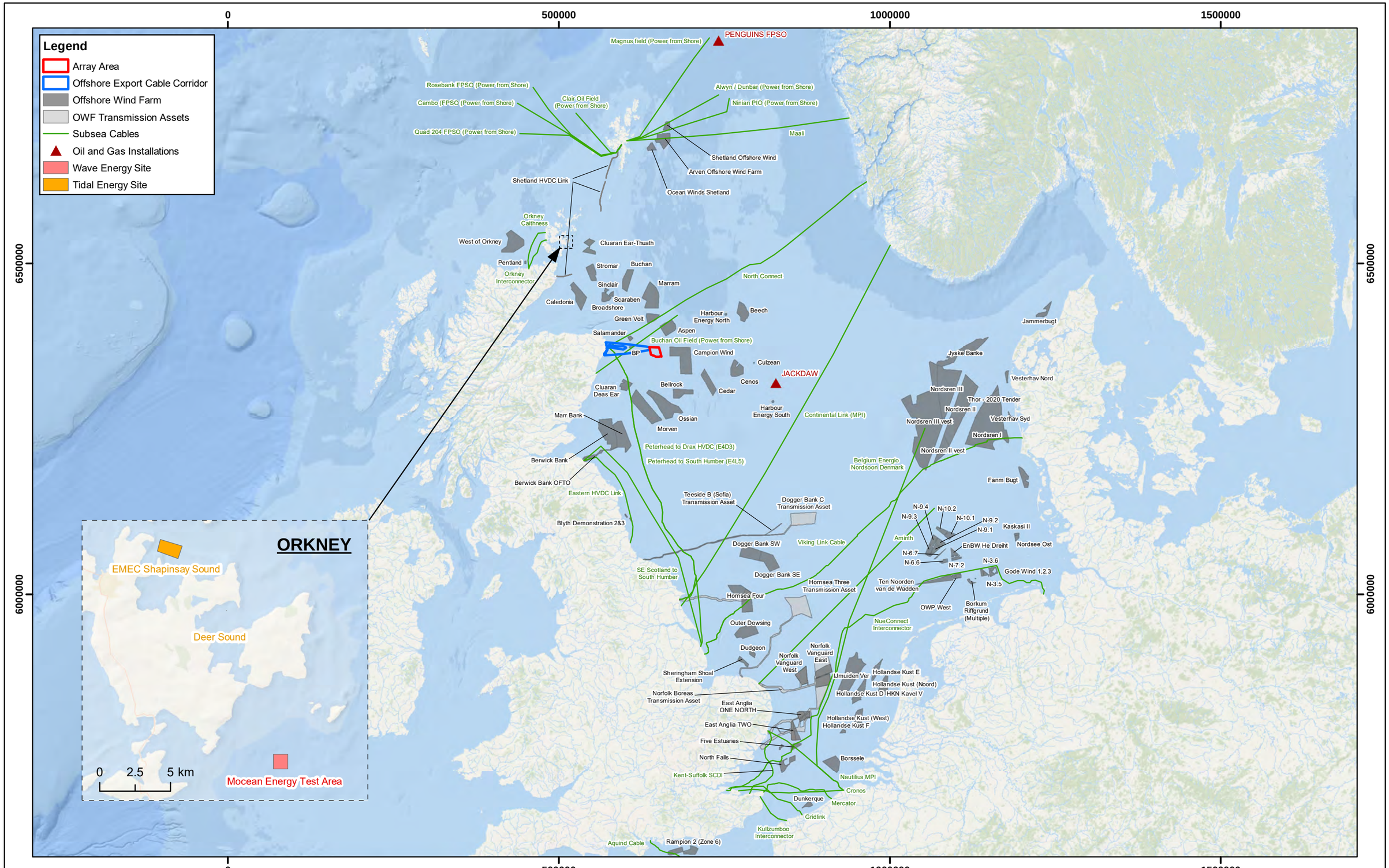
Table 6.3: Projects identified for consideration in-combination with the proposed development with respect to Marine Mammal receptors.

OWFs	OWF Cables	Oil and Gas Platforms	Subsea Cables	Tidal Site Agreements	The Crown Estate Scotland Wave Energy
Arven	Dogger Bank C Transmission Asset	Jackdaw platform (Shell PLC)	Alwyn / Dunbar (Power from Shore)	Deer Sound	Mocean Energy Test Area
Aspen (INTOG)	EA1N Transmission Asset	Penguins Floating Production, Storage and Offloading (FPSO) (Shell PLC)	Aminth	European Marine Energy Centre (EMEC) Shapinsay Sound	
Beech (INTOG)	EA2 Transmission Asset		Aquind Cable		
Bellrock	East Anglia Three Transmission Asset		Belgium Energio Nordsoon Denmark		
Berwick Bank	Green Volt (INTOG) Cable		Buchan Oil Field (Power from Shore)		
BP Alternative Energy Investments Project (INTOG)	Hornsea Three Transmission Asset		Cambo (FPSO (Power from Shore)		
Blyth Demonstration Phases 2&3	Hornsea Four Transmission Asset		Clair Oil Field (Power from Shore)		
Borkum Riffgrund 3	MarramWind Cable		Continental Link (Multi-Purpose Interconnector; MPI)		
Borkum Riffgrund West	Norfolk Boreas Transmission Asset		Cronos		
Borkum Riffgrund West II	Norfolk Vanguard East Transmission Asset		Eastern HVDC Link (E2DC Torness - Hawthorn Pit)		
Borkum Riffgrund West II	Norfolk Vanguard West Transmission Asset		Gridlink		
Borssele	Salamander (INTOG) Cable		Kent-Suffolk Interconnector		
Broadshore	Teeside B (Sofia) Transmission Asset		Kullzumboo Interconnector		
Buchan			Maali		
Caledonia			Magnus field (Power from Shore)		
CampionWind			Mercator		
Cedar (INTOG)			Nautilius MPI		
Cenos (INTOG)			Ninian Plans for Installation and Operation (PIO)(Power from Shore)		
Centre-Manche 1			NorthConnect Cable		
Centre-Manche 2			NueConnect Interconnector		
Cluaran Deas Ear			Orkney Caithness		
Cluaran Ear-Thuath			Orkney Interconnector		
Culzean (INTOG)			Peterhead to Drax HVDC (E4D3)		

OWFs	OWF Cables	Oil and Gas Platforms	Subsea Cables	Tidal Site Agreements	The Crown Estate Scotland Wave Energy
Dieppe Le Tréport			Peterhead to South Humber (E4L5)		
Dudgeon Extension			Quad 204 FPSO (Power from Shore)		
Dunkerque			Rosebank FPSO (Power from Shore)		
East Anglia ONE NORTH			SHEFA		
East Anglia TWO			Shetland HVDC Link		
EnBW He Dreiht			Southeast Scotland to South Humber		
Fanm Bugt			Tampnet CNS Fibre Optic		
Five Estuaries			Viking Link Cable		
Gode Wind 3					
Green Volt (INTOG)					
Harbour Energy North (INTOG)					
Harbour Energy South (INTOG)					
Hollandse Kust (Noord)					
Hollandse Kust (Noord Kavel V)					
Hollandse Kust (West)					
Hollandse Kust D					
Hollandse Kust E					
Hollandse Kust F					
Hornsea Four					
IJmuiden Ver					
Jammerbugt					
Jyske Banke					
Kaskasi II					
MarramWind					
Morven					
N-10.1					
N-10.2					

OWFs	OWF Cables	Oil and Gas Platforms	Subsea Cables	Tidal Site Agreements	The Crown Estate Scotland Wave Energy
N-3.5					
N-3.6					
N-6.7					
N-9.1					
N-9.2					
N-9.3					
N-9.4					
Nordsren I					
Nordsren II					
Nordsren II vest					
Nordsren III					
Nordsren III vest					
Nordlicht I					
Norfolk Vanguard East					
Norfolk Vanguard West					
North Falls					
North Sea Cluster - Gode Wind					
North Sea Cluster - Nordsee Two					
Ocean Winds Shetland					
Ossian					
OWP West					
Parc eolien pose au large de la Normadie (AO4)					
Pentland					
Dogger Bank South West					
Dogger Bank South East					
Outer Dowsing					
Rampion 2 (Rampion Extension)					

OWFs	OWF Cables	Oil and Gas Platforms	Subsea Cables	Tidal Site Agreements	The Crown Estate Scotland Wave Energy
Rampion 2 (Zone 6)					
Salamander (INTOG)					
Scaraben (INTOG)					
Sheringham Shoal Extension					
Shetland					
Sinclair (INTOG)					
Stromar					
Ten Noorden van de Wadden					
Thor - 2020 Tender					
Vesterhav Nord					
Vesterhav Syd					
West of Orkney					



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0 40 80 120 160 200 km

MUIR MHÒR WIND FARM

In-Combination Projects Identified for Marine Mammals

Confidentiality Class	C1
Drg No	GoBe-0041
Rev	A
Layout	NA

Figure 6.2

Ref files: MMH_HRA_Fig6.2_ICPs_MM_RevA

6.4 Offshore and Intertidal Ornithology

6.4.1 Projects that will be included in the in-combination assessment for offshore and intertidal ornithology will be based on the following criteria:

- For breeding season features, projects will be included if the foraging distances of screened-in species' colonies. Colonies that are within foraging distance of the Muir Mhòr array area and offshore ECC, will be included with foraging distances being those recommended by NatureScot, 2023.
- For non-breeding season features, projects will be included if they are in the species-specific BDMPS area as defined by Furness, 2015.

6.4.2 Commercial fisheries and shipping are not screened in due to their being already present and are evaluated as part of the offshore baseline.

6.4.3 The plans and projects proposed to be screened in for the offshore and intertidal ornithology in-combination assessment are listed in Table 6.4 and shown in Figure 6.3.

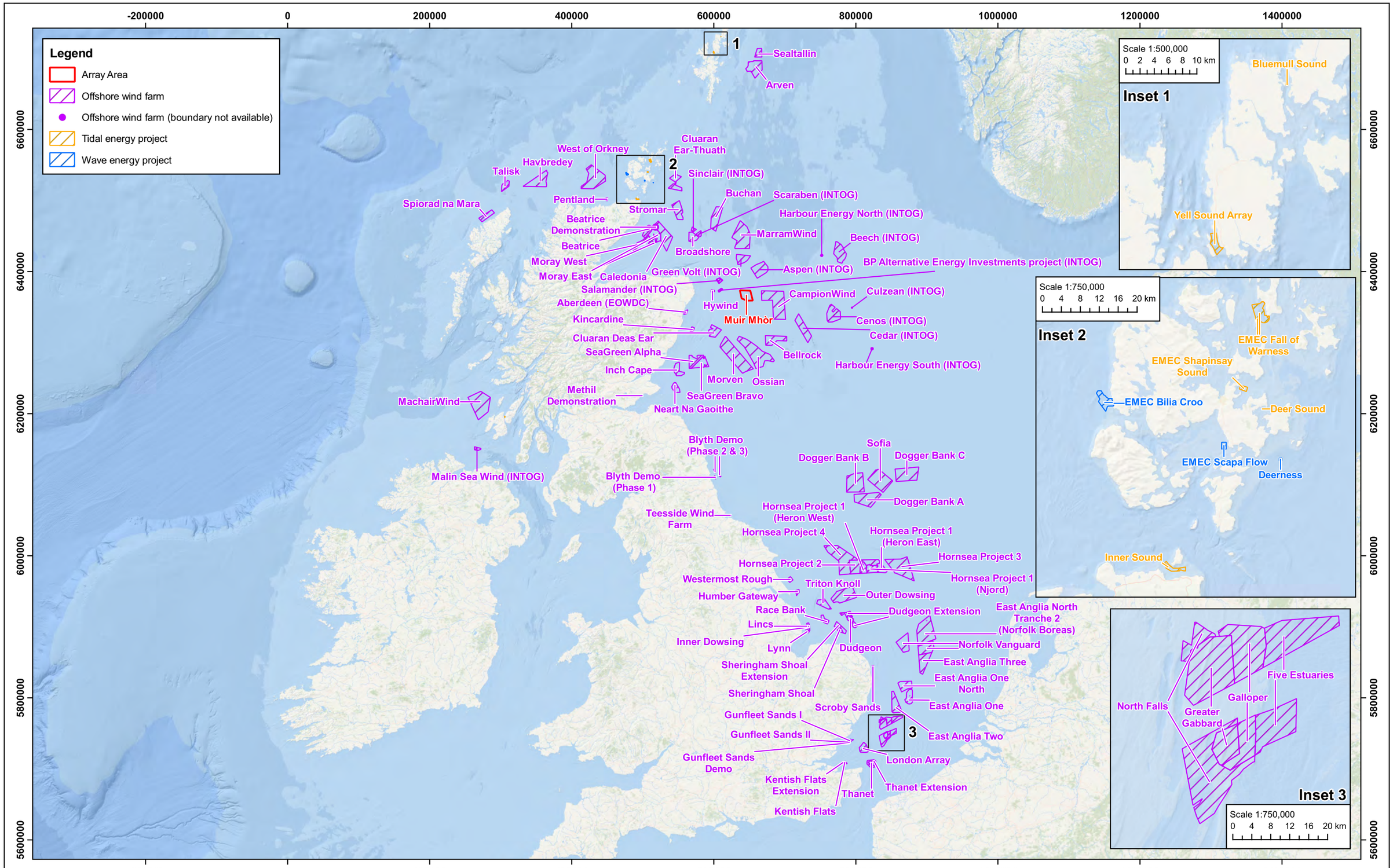
Table 6.4: Projects identified for consideration in-combination with the proposed development with respect to Offshore and Intertidal Ornithology receptors.

OWFs	Tidal Energy	Wave Energy
2B Energy Methil Demonstration	Bluemull Sound	EMEC Bilia Croo
Arven	EMEC Fall of Warness	EMEC Scapa Flow
Aspen (INTOG)	EMEC Shapinsay Sound	Mocean Energy Test Area
Beatrice	MeyGen Inner Sound	
Beatrice Demonstration	Seabed at Deer Sound, Orkney	
Beech (INTOG)	Yell Sound Array	
Bellrock		
Blyth Demonstration Site		
BP Alternative Energy Investments Project (INTOG)		
Broadshore		
Buchan		
Caledonia		
CampionWind		
Cedar (INTOG)		
Cenos (INTOG)		
Cluaran Deas Ear		

OWFs	Tidal Energy	Wave Energy
Cluaran Ear-Thuath		
Culzean (INTOG)		
Dogger Bank A		
Dogger Bank B		
Dogger Bank C		
Dudgeon		
Dudgeon Extension		
East Anglia One		
East Anglia One North		
East Anglia Two		
East Anglia Three		
European Offshore Wind Deployment Centre (EOWDC)		
Five Estuaries		
Galloper		
Galloper Extension		
Greater Gabbard		
Greater Gabbard Extension		
Green Volt (INTOG)		
Gunfleet Sands		
Harbour Energy North (INTOG)		
Harbour Energy South (INTOG)		
Havbredey		
Hornsea Project One		
Hornsea Project Two		
Hornsea Project Three		
Hornsea Project Four		
Humber Gateway		

OWFs	Tidal Energy	Wave Energy
Hywind Scotland		
Inch Cape		
Kentish Flats		
Kentish Flats Extension		
Kincardine		
Lincs		
London Array		
Lynn and Inner Dowsing		
MachairWind		
Malin Sea Wind (INTOG)		
MarramWind		
Moray East		
Moray West		
Morven		
Neart Na Gaoithe		
Norfolk Boreas		
Norfolk Vanguard		
North Falls		
Ossian		
Outer Dowsing		
Pentland Floating Demonstrator		
Race Bank		
Salamander (INTOG)		
Seagreen Alpha		
Seagreen Bravo		
Sealtainn		
Scaraben (INTOG)		

OWFs	Tidal Energy	Wave Energy
Scroby Sands		
Sheringham Shoal		
Sheringham Shoal Extension		
Sinclair (INTOG)		
Sofia		
Spiorad na Mara		
Stromar		
Talisk		
Teesside		
Thanet		
Thanet Extension		
Triton Knoll		
West of Orkney		
Westermost Rough		



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C	11/05/23	JO	CP	Third issue
B	04/05/23	JO	CP	Second issue
A	02/05/23	JO	CP	First issue

Datum	ETRS 1989
Projection	ETRS 1989 UTM Zone 30N
Plot	A3
Scale	1:5,000,000

0 40 80 120 160 200 km

MUIR MHÒR WIND FARM

In-combination Projects Identified for Offshore and Intertidal Ornithology

Confidentiality Class	C1
Drg No	GB204098_M_031
Rev	D
Layout	NA

Figure 6.3

Ref files: GB204098_M_031_D

6.5 Migratory Fish

6.5.1 The potential for LSE in-combination for migratory fish will be determined based on the following:

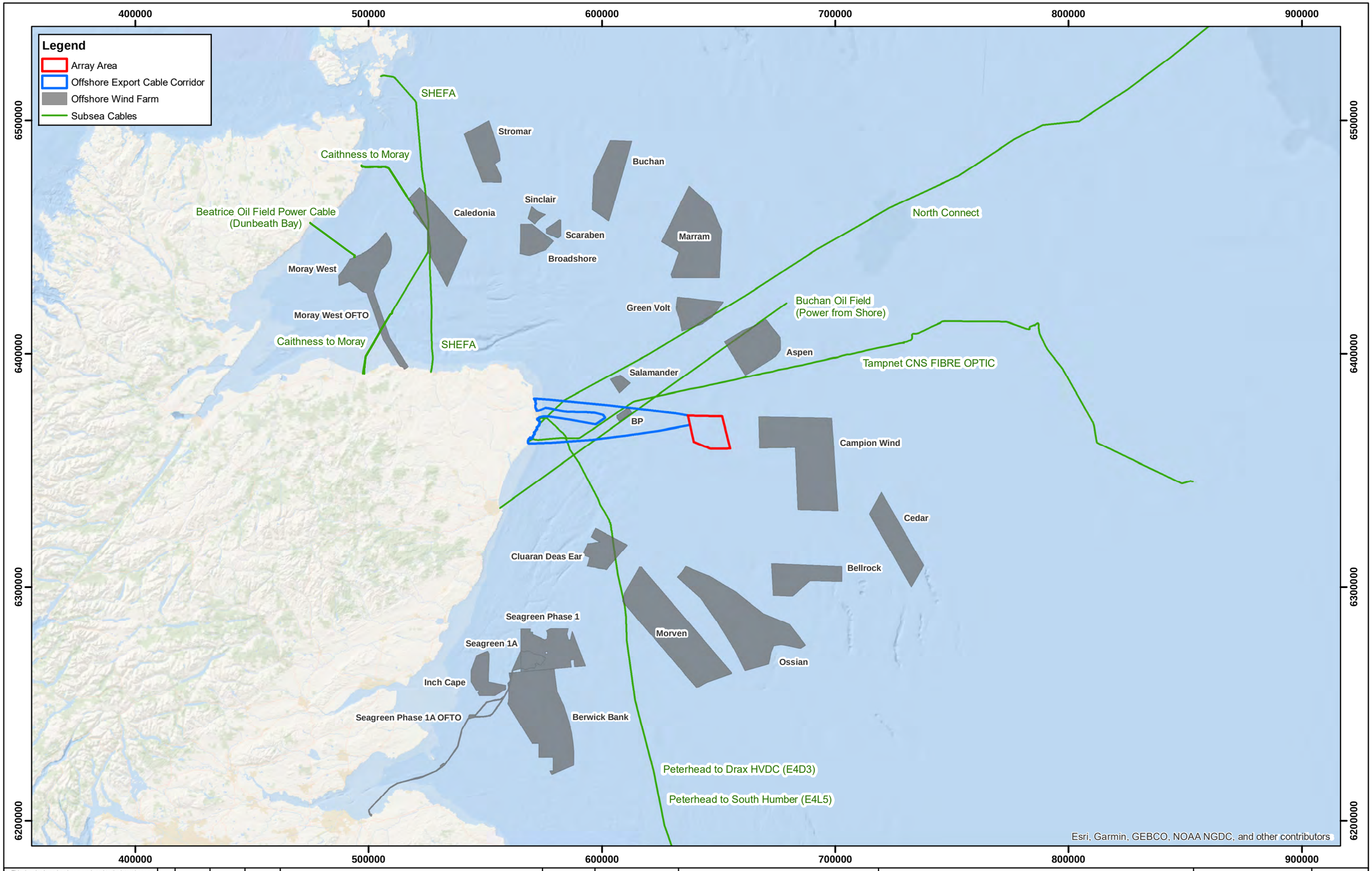
- A plan or project which is located within sufficient proximity (100 km) to the designated site; this is based on the maximum potential zone of influence associated with underwater noise.

6.5.2 Based on the above criteria and similar project screening reports, the plans and projects proposed to be screened in for the migratory fish in-combination assessment are presented in Table 6.5 (also see Figure 6.4).

Table 6.5: Projects identified for consideration in-combination with proposed development with respect to Migratory Fish receptors.

OWFs	OWF Cables	Subsea Cables
Aspen (INTOG)	Green Volt (INTOG) Cable	Beatrice Oil Field Power Cable (Dunbeath Cable)
Bellrock	MarramWind Cable	Buchan Oil Field (Power from Shore)
Berwick Bank	Moray West Transmission Asset	Caithness to Moray
Broadshore	Salamander (INTOG) Cable	NorthConnect Interconnector
BP Alternative Energy Investments Project (INTOG)	Seagreen 1A Transmission Asset	Peterhead to South Humber (E4L5)
Buchan		Peterhead to Drax HVDC (E4D3)
Caledonia		SHEFA
CampionWind		Tampnet CNS Fibre Optic
Cedar (INTOG)		
Cluaran Deas Ear		
Green Volt (INTOG)		
Inch Cape		
MarramWind		
Moray West		
Morven		
Ossian		
Salamander (INTOG)		
Scaraben (INTOG)		
Seagreen Phase 1		

OWFs	OWF Cables	Subsea Cables
Seagreen 1A		
Stromar		



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0 10 20 30 40 50 km

MUIR MHÒR WIND FARM

In-Combination Projects Identified for Migratory Fish

Confidentiality Class	C1
Drg No	GoBe-0040
Rev	A
Layout	NA

Figure 6.4

Ref files: MMH_HRA_Fig6.4_ICPs_MF_RevA

7 Conclusion for Screening Assessment of No LSE

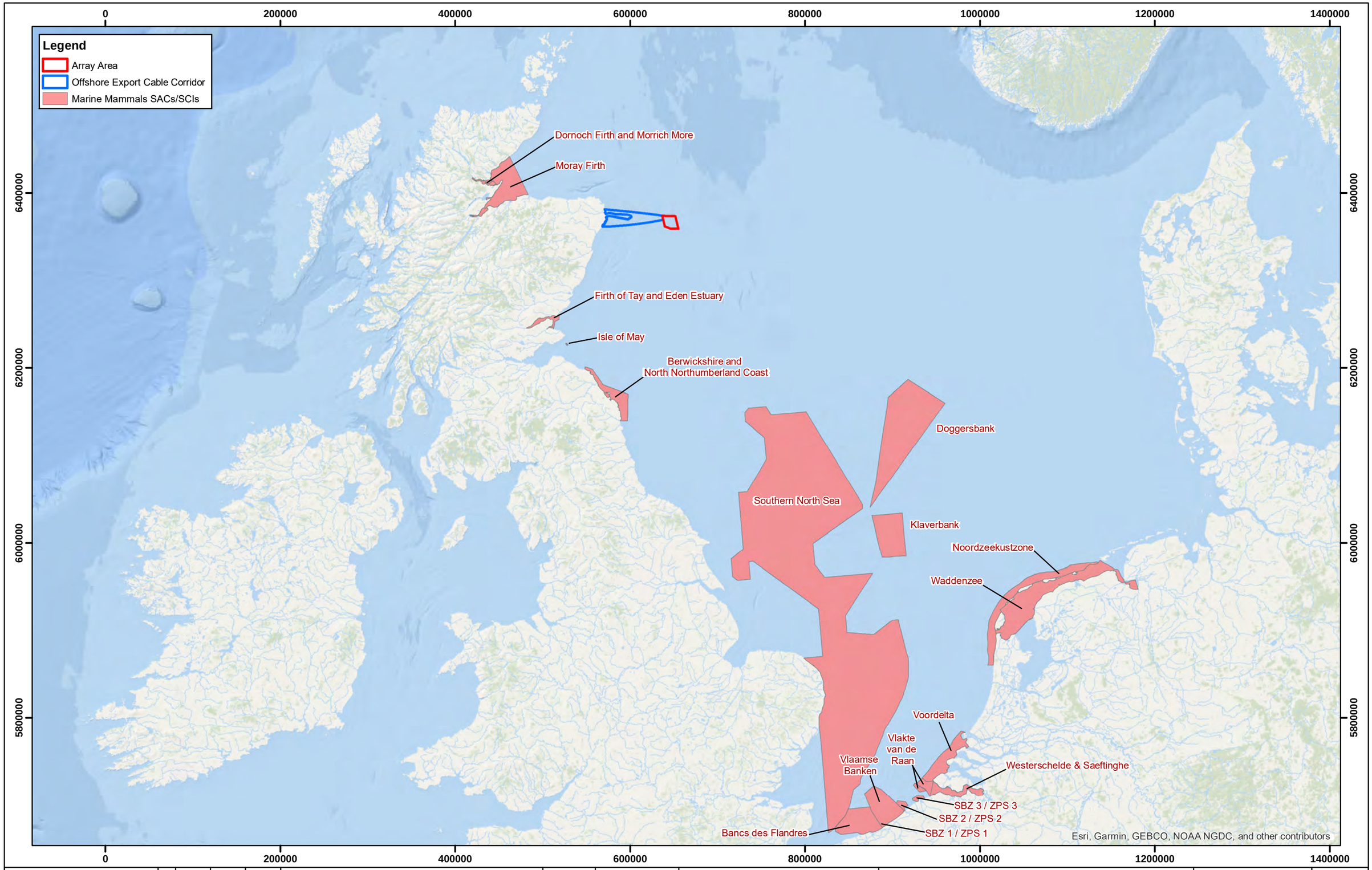
7.1.1 No sites were identified within the screening range applied for benthic subtidal and intertidal ecology receptors; and it is determined there will be no pathway for effect and therefore no LSE from the proposed development for any designated site or feature, alone or in-combination with other plans or projects.

7.1.2 Sites identified with potential for LSE, alone or in-combination with other plans or projects (i.e. it has not been possible to determine no LSE at this stage), are presented below for marine mammals (Table 7.1, Figure 7.1), offshore and intertidal ornithology (Table 7.2, Figure 7.2), and migratory fish (Table 7.3, Figure 7.3).

7.1.3 After this report has been published, consultation will be undertaken prior to the drafting of the RIAA as Stage 2 of the HRA process. Relevant stakeholders will be involved in this process, and all consultees with be involved throughout the development of the RIAA. Once the consultation stage is completed, any comments received will be considered and used to inform the RIAA as the next stage in the process. The outcomes of the screening report after considering any consultation received, will be reflected within the RIAA.

Table 7.1: Summary of marine mammal screening.

Designated Site	Feature(s) to consider for Assessment of no LSE	Potential Effects			Assessment of no LSE (Alone or In-combination)
		Construction	O&M	Decommissioning	
Southern North Sea SAC	Harbour porpoise	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species • Entanglement • Barrier effects	• Injury and disturbance from underwater noise • Collision risk and disturbance from vessels • Changes in water quality • Indirect impacts on prey species	No potential for LSE
Moray Firth SAC	Bottlenose dolphins				Potential for LSE
Firth of Tay and Eden Estuary SAC	Harbour seal				No potential for LSE
Dornoch Firth and Morrich More SAC	Harbour seal				No potential for LSE
Isle of May SAC	Grey seal				No potential for LSE
Berwickshire and North Northumberland Coast SAC	Grey seal				No potential for LSE
Bancs des Flandres SCA	Harbour porpoise				No potential for LSE
Doggersbank (Netherlands) SAC	Harbour porpoise				No potential for LSE
Klaverbak SCI	Harbour porpoise				No potential for LSE
Noordzeekustone SCI	Harbour porpoise				No potential for LSE
SBZ 1 SCI	Harbour porpoise				No potential for LSE
SBZ 2 SCI	Harbour porpoise				No potential for LSE
SBZ 3 SCI	Harbour porpoise				No potential for LSE
Vlaamse Banked SCI	Harbour porpoise				No potential for LSE
Vlakte van de Raan SCI	Harbour porpoise				No potential for LSE
Voordelta SCI	Harbour porpoise				No potential for LSE
Waddenzee SCI	Harbour porpoise				No potential for LSE
Westerschelde and Saeftinghe SCI	Harbour porpoise				No potential for LSE



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Plot	A3
Scale	1:4,000,000

0 20 40 60 80 100 km

MUIR MHÒR WIND FARM

All Sites with an identified LSE for Marine Mammal Receptors

Confidentiality Class	C1
Drg No	GoBe-0044
Rev	A
Layout	NA

Figure 7.1

Ref files: MMH_HRA_Fig7.1_MM_Receptors_RevA

Table 7.2: Summary of offshore and intertidal ornithology screening.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
Buchan Ness to Collieston Coast SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Buchan Ness to Collieston Coast SPA	Shag	• Disturbance and displacement (ECC only) • Accidental pollution (ECC only) • Changes to prey (ECC only)			No potential for LSE identified for collision or barrier effects on basis of no connectivity. Potential for LSE identified (ECC activities only) for disturbance and displacement, accidental pollution, and changes to prey on basis of connectivity and sensitivity of receptor.
Buchan Ness to Collieston Coast SPA	Guillemot	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement, and changes to prey on basis of connectivity and sensitivity of receptor.
Buchan Ness to Collieston Coast SPA	Herring gull	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement and barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution, and changes to prey on basis of connectivity and sensitivity of receptor.
Buchan Ness to Collieston Coast SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Loch of Strathbeg SPA and Ramsar	Sandwich tern	• Accidental pollution (ECC only) • Changes to prey (ECC only)			No potential for LSE identified for collision or barrier effects on basis of no connectivity. Potential for LSE identified (ECC activities only) for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Loch of Strathbeg SPA and Ramsar	Goldeneye Greylag goose Pink-footed goose Svalbard barnacle goose Teal Whooper swan	-	• Collision	-	No potential for LSE identified for any effect on basis on no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.
Troup, Pennan & Lion's Heads SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
					Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Troup, Pennan & Lion's Heads SPA	Guillemot Razorbill	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement and changes to prey on basis of connectivity and sensitivity of receptor.
Troup, Pennan & Lion's Heads SPA	Herring gull	• Accidental pollution (ECC only) • Changes to prey (ECC only)			No potential for LSE identified for disturbance and displacement on basis of insensitivity of receptor. No potential for LSE identified for collision effects on basis of no connectivity. No potential for LSE identified for barrier effects on basis of no connectivity and insensitivity of receptor. Potential for LSE identified (ECC activities only) for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Troup, Pennan & Lion's Heads SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fowlsheugh SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fowlsheugh SPA	Guillemot Razorbill	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement, and changes to prey on basis of connectivity and sensitivity of receptor.
Fowlsheugh SPA	Herring gull	• Accidental pollution (ECC only) • Changes to prey (ECC only)			No potential for LSE identified for disturbance and displacement on basis of insensitivity of receptor. No potential for LSE identified for collision effects on basis of no connectivity. No potential for LSE identified for barrier effects on basis of no connectivity and insensitivity of receptor. Potential for LSE identified (ECC activities only) for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fowlsheugh SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
			• Barrier effects • Accidental pollution • Changes to prey		Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
East Caithness Cliffs SPA	Peregrine	-			No potential for LSE identified for any effect on basis of no connectivity
East Caithness Cliffs SPA	Cormorant Herring gull Great black-backed gull Guillemot Shag	-			No potential for LSE identified for any effect on basis of no connectivity
East Caithness Cliffs SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
East Caithness Cliffs SPA	Razorbill	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	No potential for LSE identified for collision on basis of insensitivity of receptor and no connectivity. No potential for LSE identified for barrier effects on basis of no connectivity. Potential for LSE identified (ECC activities only) for disturbance and displacement, accidental pollution, entanglement, and changes to prey on basis of connectivity and sensitivity of receptor.
East Caithness Cliffs SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Forth Islands SPA	Arctic tern Common tern Cormorant Herring gull Guillemot Razorbill Roseate tern Sandwich tern Shag	-			No potential for LSE identified for any effect on basis of no connectivity
Forth Islands SPA	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
			• Accidental pollution • Changes to prey		Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Forth Islands SPA	Lesser black-backed gull	• Accidental pollution • Changes to prey			No potential for LSE identified for disturbance and displacement and barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution, and changes to prey on basis of connectivity and sensitivity of receptor.
Forth Islands SPA	Puffin	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement, and changes to prey on basis of connectivity and sensitivity of receptor.
Forth Islands SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Caithness Cliffs SPA	Peregrine	-			No potential for LSE identified for any effect on basis of no connectivity
North Caithness Cliffs SPA	Guillemot Razorbill	-			No potential for LSE identified for any effect on basis of no connectivity
North Caithness Cliffs SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Caithness Cliffs SPA	Puffin	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement, and changes to prey on basis of connectivity and sensitivity of receptor.
North Caithness Cliffs SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Copinsay SPA	Great black-backed gull	-			No potential for LSE identified for any effect on basis of no connectivity

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
	Guillemot				
Copinsay SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Copinsay SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Scapa Flow SPA	Shag	-			No potential for LSE identified for any effect on basis of no connectivity.
Scapa Flow SPA	Black-throated diver Eider Great northern diver Long-tailed duck Red-breasted merganser Red-throated diver Slavonian grebe	-	• Collision	-	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.
Inner Moray Estuary SPA and Ramsar	Common tern Osprey	-			No potential for LSE identified for any effect on basis of no connectivity.
Inner Moray Estuary SPA and Ramsar	Bar-tailed godwit Cormorant Curlew Goldeneye Goosander Greylag goose Oystercatcher Red-breasted merganser Redshank Scaup Teal	-	• Collision	-	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.
Dornoch Firth and Loch Fleet SPA and Ramsar	Osprey	-			No potential for LSE identified for any effect on basis of no connectivity.
Dornoch Firth and Loch Fleet SPA and Ramsar	Bar-tailed godwit Curlew	-	• Collision	-	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
	Dunlin Greylag goose Oystercatcher Redshank Scaup Teal				Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.
Cromarty Firth SPA and Ramsar	Common tern Osprey	-			No potential for LSE identified for any effect on basis of no connectivity.
Cromarty Firth SPA and Ramsar	Bar-tailed godwit Curlew Dunlin Greylag goose Knot Oystercatcher Pintail Red-breasted merganser Redshank Scaup Whooper swan Wigeon	-	• Collision	-	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.
Inner Firth of Forth SPA	Bar-tailed godwit Common scoter Cormorant Curlew Dunlin Eider Golden plover Goldeneye Great crested grebe Grey plover Knot Lapwing Long-tailed duck Mallard Oystercatcher	-	• Collision	-	No potential for LSE identified for any effect on basis of no connectivity for all effects excluding collision. Potential for LSE identified for collision effects on basis of connectivity and sensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
	Pink-footed goose Red-breasted merganser Red-throated diver Redshank Ringed plover Scaup Shelduck Slavonian grebe Turnstone Velvet scoter Wigeon				
Inner Firth of Forth SPA	Sandwich tern	-			No potential for LSE identified for any effect on basis of no connectivity
Auskerry SPA	Arctic tern	-			No potential for LSE identified for any effect on basis of no connectivity
Auskerry SPA	European storm petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution, and changes to prey on basis of connectivity and sensitivity of receptor.
Hoy SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hoy SPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
Hoy SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hoy SPA	Puffin	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement, and changes to prey on basis of connectivity and sensitivity of receptor.
Hoy SPA	Arctic skua Great black-backed gull Guillemot Peregrine falcon Red-throated diver	-			No potential for LSE identified for any effect on basis of no connectivity.
Calf of Eday SPA	Cormorant Great black-backed gull Guillemot	-			No potential for LSE identified for any effect on basis of no connectivity.
Calf of Eday SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Calf of Eday SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fair Isle SPA	Arctic skua Arctic tern Fair Isle wren Guillemot	-			No potential for LSE identified for any effect on basis of no connectivity.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
	Puffin Razorbill Shag				
Fair Isle SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fair Isle SPA	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fair Isle SPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fair Isle SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fair Isle SPA	Puffin	• Disturbance and displacement • Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey • Entanglement	• Disturbance and displacement • Accidental pollution • Changes to prey	No potential for LSE identified for collision on basis of insensitivity of receptor. Potential for LSE identified for disturbance and displacement, barrier effects, accidental pollution, entanglement, and changes to prey on basis of connectivity and sensitivity of receptor.
Rousay SPA	Arctic skua Arctic tern Guillemot	-			No potential for LSE identified for any effect on basis of no connectivity.
Rousay SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Rousay SPA	Kittiwake	• Accidental pollution	• Collision	• Accidental pollution	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
		• Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Changes to prey	Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
West Westray SPA	Arctic skua Arctic tern Guillemot Razorbill	-			No potential for LSE identified for any effect on basis of no connectivity.
West Westray SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
West Westray SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Marwick Head SPA	Guillemot	-			No potential for LSE identified for any effect on basis of no connectivity.
Marwick Head SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance, and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Sumburgh Head SPA	Arctic tern Guillemot	-			No potential for LSE identified for any effect on basis of no connectivity.
Sumburgh Head SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Sumburgh Head SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
Seas off Foula SPA	Arctic skua Guillemot Puffin	-			No potential for LSE identified for any effect on basis of no connectivity.
Seas off Foula SPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas off Foula SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas off Foula SPA	Great skua Fulmar Guillemot	-			No potential for LSE identified for any effect on basis of no connectivity.
Sule Skerry and Sule Stack SPA	Guillemot Puffin Shag	-			No potential for LSE identified for any effect on basis of no connectivity.
Sule Skerry and Sule Stack SPA	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Sule Skerry and Sule Stack SPA	Leach's petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Sule Skerry and Sule Stack SPA	European storm petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Cape Wrath SPA	Guillemot	-			No potential for LSE identified for any effect on basis of no connectivity.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
	Puffin Razorbill				
Cape Wrath SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Cape Wrath SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Noss SPA	Guillemot Kittiwake Puffin	-			No potential for LSE identified for any effect on basis of no connectivity.
Noss SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Noss SPA	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Noss SPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Noss SPA	Guillemot	-	-	-	No potential for LSE identified for any effect on basis of no connectivity.
Noss SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Foula SPA	Arctic skua Arctic tern	-			No potential for LSE identified for any effect on basis of no connectivity.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
	Guillemot Puffin Razorbill Red-throated diver Shag				
Foula SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Foula SPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Foula SPA	Kittiwake	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Foula SPA	Leach's petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Handa SPA	Guillemot Kittiwake	-			No potential for LSE identified for any effect on basis of no connectivity.
Handa SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Handa SPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fetlar SPA	Arctic skua Arctic tern Dunlin	-			No potential for LSE identified for any effect on basis of no connectivity.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
	Red-necked phalarope				
Fetlar SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Fetlar SPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Flamborough and Filey Coast SPA	Razorbill Kittiwake Guillemot	-			No potential for LSE identified for any effect on basis of no connectivity.
Flamborough and Filey Coast SPA	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Rona and Sula Sgeir SPA	Great black-backed gull Guillemot Kittiwake Puffin Razorbill	-			No potential for LSE identified for any effect on basis of no connectivity.
North Rona and Sula Sgeir SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Rona and Sula Sgeir SPA	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
North Rona and Sula Sgeir SPA	Leach's petrel European storm petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor.

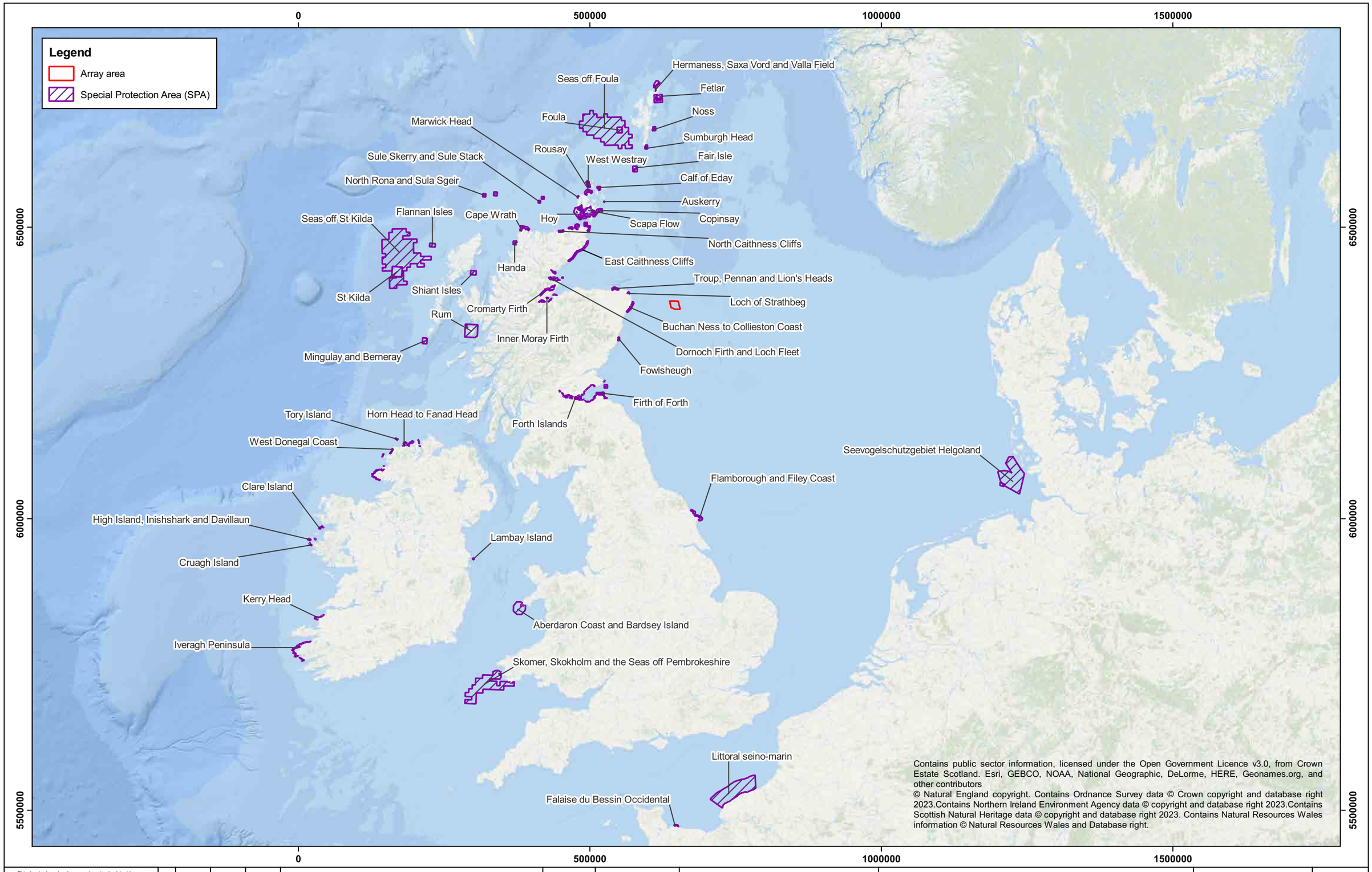
Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
					Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hermaness, Saxa Vord and Valla Field SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hermaness, Saxa Vord and Valla Field SPA	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hermaness, Saxa Vord and Valla Field SPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Hermaness, Saxa Vord and Valla Field SPA	Guillemot Kittiwake Puffin Red-throated diver Shag	-			No potential for LSE identified for any effect on basis of no connectivity.
Shiant Isles SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Shiant Isles SPA	Guillemot Puffin Kittiwake Razorbill Shag	-			No potential for LSE identified for any effect on basis of no connectivity.
Flannan Isles SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Flannan Isles SPA	Leach's petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
			• Changes to prey		Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Flannan Isles SPA	Kittiwake Guillemot Razorbill Puffin	-			No potential for LSE identified for any effect on basis of no connectivity.
Seas off St Kilda mSPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas off St Kilda mSPA	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas off St Kilda mSPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor
Seas off St Kilda mSPA	European storm petrel	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seas of St Kilda mSPA	Guillemot Kittiwake Puffin	-			No potential for LSE identified for any effect on basis of no connectivity.
Rum SPA	Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
St Kilda SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
St Kilda SPA	Gannet	• Accidental pollution • Changes to prey	• Collision • Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement from vessel-based activities on basis of insensitivity of receptor. Potential for LSE identified for collision, disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
St Kilda SPA	European storm petrel Leach's petrel Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
St Kilda SPA	Great skua	• Accidental pollution • Changes to prey	• Collision • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE identified for disturbance and displacement, entanglement, or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for collision, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Mingulay and Berneray SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Seevogelschutzgebiet Helgoland SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Horn Head to Fanad Head SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Tory Island SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
West Donegal Coast SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Littoral seino-marin SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Clare Island SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Lambay Island SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
High Island, Inishshark and Davillaun SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Falaise du Bessin Occidental SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Cruagh Island SPA	Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Glannau Aberdaron ac Ynys Enlli / Aberdaron Coast and Bardsey Island SPA	Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Kerry Head SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.

Designated Site	Feature(s) to consider for Assessment of No LSE	Potential Effects			Conclusion of LSE
		Construction	O&M	Decommissioning	
Skomer, Skokholm and the Seas off Pembrokeshire SPA	Manx shearwater	• Accidental pollution • Changes to prey	• Disturbance and displacement • Barrier effects • Accidental pollution • Changes to prey	• Accidental pollution • Changes to prey	No potential for LSE from disturbance and displacement during construction and decommissioning phases. No potential LSE from collision or entanglement due to insensitivity of receptor. Potential from LSE identified for disturbance and displacement (from offshore wind farm infrastructure), barrier effects, accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.
Iveragh Peninsula SPA	Fulmar	• Accidental pollution • Changes to prey			No potential for LSE identified for collision, disturbance and displacement or barrier effects on basis of insensitivity of receptor. Potential for LSE identified for accidental pollution and changes to prey on basis of connectivity and sensitivity of receptor.



This drawing/map has been produced to the latest known information at the time of issue. Please consult with the Vattenfall GIS team to ensure the content is still current before using the information contained on this map.

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Rev	Date	Drawn By	Checked By	Comment
B	12/05/23	JO	CP	Second Issue
A	05/05/23	JO	FM	First Issue

Datum	ETRS 1989
Projection	ETRS 1989 UTM Zone 30N
Plot	A3
Scale	1:6,000,000

0 40 80 120 160 200 km

MUIR MHÒR WIND FARM

All Sites with an Identified LSE for Offshore and Intertidal Ornithology Receptors

Confidentiality Class	C1
Drg No	GB204098_M_030
Rev	B
Layout	NA

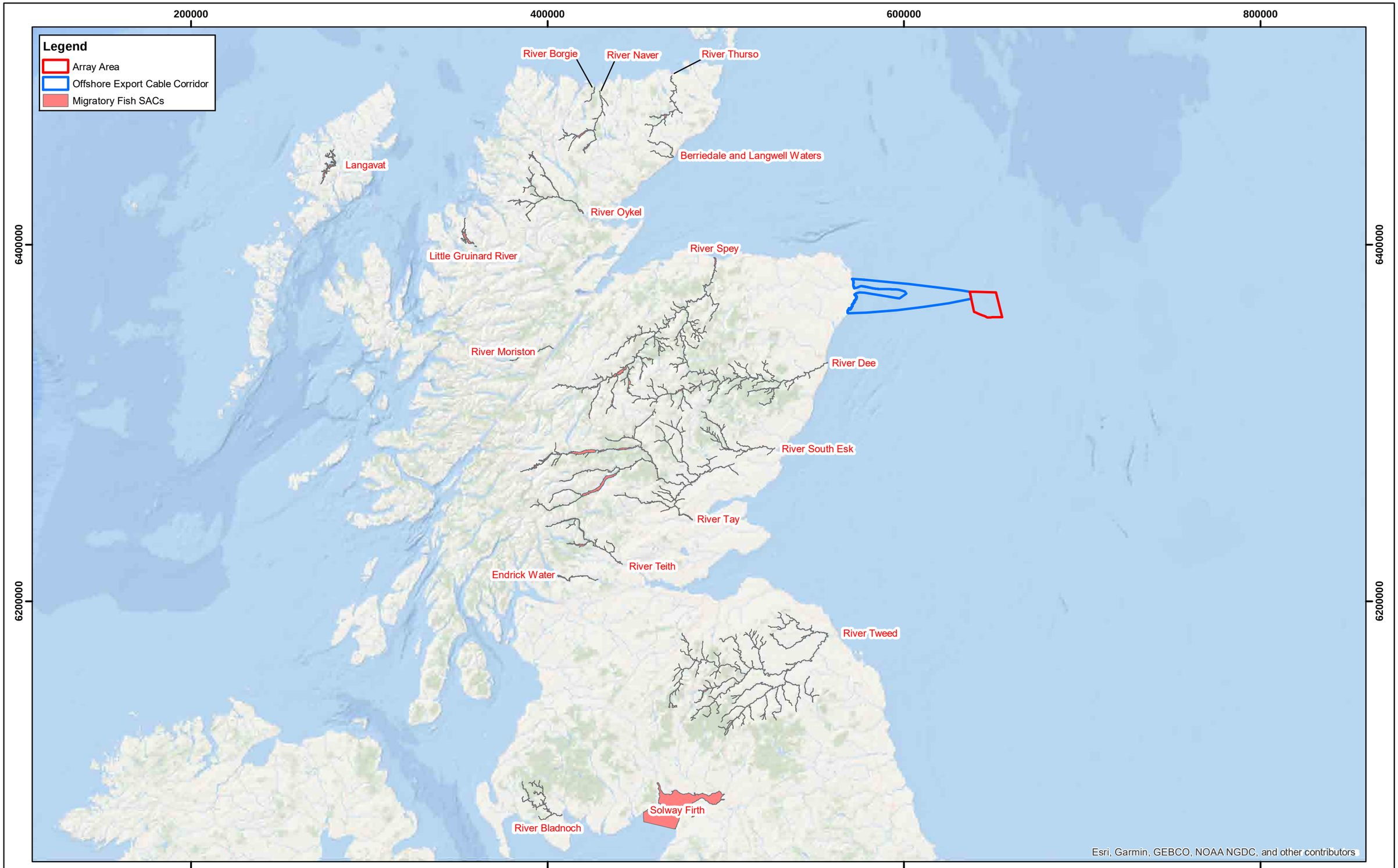
Figure 7.2

Ref files: GB204098_M_030_B

Table 7.3: Summary of migratory fish screening.

Designated Site	Feature(s) to consider for Assessment of no LSE	Potential Effects			Assessment of no LSE (Alone or In-combination)
		Construction	O&M	Decommissioning	
Berriedale and Langwell Waters	Atlantic salmon (*Salmo salar*)	Underwater noise			Potential for LSE.
Endrick Water	Atlantic salmon (*Salmo salar*) River lamprey (*Lampetra fluviatilis)*	Underwater noise			Potential for LSE.
Langavat	Atlantic salmon (*Salmo salar*)	Underwater noise			Potential for LSE.
Little Gruinard River	Atlantic salmon (*Salmo salar*)	Underwater noise			Potential for LSE.
River Bladnoch	Atlantic salmon (*Salmo salar*)	Underwater noise			Potential for LSE.
River Borgie	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	Underwater noise			Potential for LSE.
River Dee	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	Underwater noise			Potential for LSE.
River Moriston	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	Underwater noise			Potential for LSE.
River Naver	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	Underwater noise			Potential for LSE.
River Oykel	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	Underwater noise			Potential for LSE.
River South Esk	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*)	Underwater noise			Potential for LSE.
River Spey	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*) Sea lamprey (*Petromyzon marinus*)	Underwater noise			Potential for LSE.
River Tay	Atlantic salmon (*Salmo salar*) River lamprey (*Lampetra fluviatilis)* Sea lamprey (*Petromyzon marinus*)	Underwater noise			Potential for LSE.
River Teith	Atlantic salmon (*Salmo salar*) Freshwater pearl mussel (*Margaritifera margaritifera*) River lamprey (*Lampetra fluviatilis*) Sea lamprey (*Petromyzon marinus*)	Underwater noise			Potential for LSE.
River Thurso	Atlantic salmon (*Salmo salar*)	Underwater noise			Potential for LSE.
River Tweed	Atlantic salmon (*Salmo salar*)	Underwater noise			Potential for LSE.

Designated Site	Feature(s) to consider for Assessment of no LSE	Potential Effects			Assessment of no LSE (Alone or In-combination)
		Construction	O&M	Decommissioning	
	River lamprey (*Lampetra fluviatilis)* Sea lamprey (*Petromyzon marinus*)				
Solway Firth	River lamprey (*Lampetra fluviatilis)* Sea lamprey (*Petromyzon marinus*)	Underwater noise			Potential for LSE.



This drawing/map has been produced to the latest known information at the time of issue. Please consult with the Vattenfall GIS team to ensure the content is still current before using the information contained on this map.

MUIR MHÒR OFFSHORE WIND FARM

A joint venture between Fred. Olsen Seawind & Vattenfall

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United Kingdom

Rev	Date	Drawn By	Checked By	Comment
A	02/05/23	SWM	LK	First Issue

Datum	ETRS 1989
Projection	ETRS 1989 UTM Zone 30N
Plot	A3
Scale	1:2,000,000

0 10 20 30 40 50 km

MUIR MHÒR WIND FARM

All Sites with an identified LSE for Migratory Fish Receptors

Confidentiality Class	C1
Drg No	GoBe-0045
Rev	A
Layout	NA

Figure 7.3

Ref files: MMH_HRA_Fig7.3_MF_Receptors_RevA

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