



# **Buchan Offshore Wind**

## **Offshore HRA Screening Report**

# QMS Review

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## GLOSSARY

Terminology	Definition
Array Area	The Array Area means the area shown outlined in red in Figure 1.1 of this Offshore HRA Screening Report.
Bathymetry	The measurement of water depth in oceans, seas and lakes.
In combination effects	The effects of the combined impacts from the Proposed Development along with other plans and projects on the same receptor.
Competent Authority	A Competent Authority has duties under the Habitats Regulations including carrying out a Habitats Regulations Appraisal. The Competent Authority for the Proposed Development is Scottish Ministers.
Design Envelope	A description of the range of possible elements which make up the project design options under consideration by the Applicant as summarised in Section 1.3 of this Report. This envelope is used to define the Proposed Development for Environmental Impact Assessment (EIA) and Habitat Regulation Appraisal (HRA) purposes when the exact engineering parameters are not yet known. This is also often referred to as the “Rochdale Envelope” approach.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive, including the publication of an Environmental Impact Assessment Report (EIAR).
Environmental Impact Assessment Report (EIAR)	A document reporting the findings of the EIA and produced in accordance with the EIA Directive (Directive 2011/92/EU as amended by Directive 2014/52/EU) as transposed into UK law by the EIA Regulations. An Offshore EIAR will be submitted as part of the offshore application for Buchan Wind Farm.
European sites	A Special Area of Conservation (SAC) or candidate SAC, a Special Protection Area (SPA) or potential SPA, a site listed as a site of community importance or a Ramsar site which form part of the National Site Network.
Export Cables	The subsea cables used to transmit energy generated offshore by Wind Turbine Generators (WTGs) to shore.
Export Cable Corridor (ECC)	The specific corridor of seabed (seaward of Mean High Water Springs (MHWS)) connecting the Array Area to the Landfall Area within which the marine export cables will be located. The final ECC will be located within the ECC Search Area and will be finalised via a site selection process considering technical, physical and environmental constraints.
Export Cable Corridor (ECC) Search Area	The offshore area of seabed (seaward of MHWS), shown outlined in blue in Figure 1.1, within which the final ECC will be located. The ECC Search Area currently encompasses a Preferred ECC. The HRA Screening Report is of the Array Area and ECC Search Area which form the boundary of the Proposed Development.
Foundations	The subsea infrastructure which supports the wind turbine generators & offshore substation platforms.
Habitats Regulations Appraisal (HRA)	A process which makes an appropriate assessment of the implications of a plan or project on a European site in view of that site’s conservation objectives. The process consists of up to three stages: screening, appropriate assessment and derogation (if required), which encompasses consideration of alternative solutions, consideration of imperative reasons of over-riding public interest (IROPI) and securing compensatory measures.
High Voltage Alternating Current (HVAC)	High voltage alternating current is the bulk transmission of electricity by alternating current (AC), whereby the flow of electric charge periodically reverses direction.
High Voltage Direct Current (HVDC)	High voltage direct current is the bulk transmission of electricity by direct current (DC), whereby the flow of electric charge is in one direction.
Impact	Change that is caused by an action; for example, cable installation (action) during construction which results in habitat disturbance (impact).
Intermediate Reactive Compensation (IRC) platform	Where alternating current (AC) transmission technology is used, an Intermediate Reactive Compensation (IRC) platform may be required to reduce loss of electricity which may occur between the Array site and the onshore substation.
Grid Connection Point	The Transmission Interface Point (TIP) substation which connects to the National Electricity Transmission System (NETS).
Landfall Area	For the purposes of the Proposed Development this is the area between MHWS and MLWS in which all of the export cables and associated infrastructure will make landfall and is the transitional area between the Offshore Transmission Infrastructure and the Onshore Transmission Infrastructure.
Magnitude	A combination of the extent, duration, frequency and reversibility of an impact.
Maximum Design Scenario	A realistic set of project design parameters for each impact pathway considered as part of the EIA and HRA, which will be developed from the Design Envelope which will establish the parameters (or combination of parameters) that could result in the maximum effect.

Mean High Water Spring (MHWS)	The height of mean high water during spring tides in a year.
Mean Low Water Spring (MLWS)	The height of mean low water during spring tides in a year.
Onshore Transmission Infrastructure	The onshore transmission infrastructure associated with the Project above Mean Low Water Springs (MLWS), which will be consented via separate onshore consenting process.
Offshore Generation Infrastructure (OGI)	The offshore generation infrastructure associated with the Buchan Wind Farm comprising of WTGs, WTGS floating foundations and associated infrastructure (e.g. moorings and anchors), and inter-array and interconnector cables.
Offshore Transmission Infrastructure (OTI)	The offshore Transmission Infrastructure associated with the Proposed Development comprising of OSPs, an IRC platform and offshore export cables up to Mean High Water Springs (MHWS).
Option Area (OA)	The spatial extent of the area covered by the option agreement for developing the Proposed Development between the Applicant and Crown Estate Scotland (CES).
Offshore Substation Platform (OSP)	The offshore platform that facilitates the transfer of power from the WTGs and inter-array cables to the offshore export cables.
Plan Option (PO)	The term used to describe the 17 areas identified in the Scottish Sectoral Marine Plan as areas for offshore wind development, which were subject to the ScotWind leasing round undertaken in 2021/22. The Proposed Development Array Area is located in NE8 Plan Option area.
Project	The Buchan Wind Farm, comprising the Proposed Development and the Onshore Transmission Infrastructure.
Proposed Development	This includes all offshore aspects of the Project comprising of the Offshore Generation Infrastructure and Offshore Transmission Infrastructure, extending from Scottish offshore waters to MHWS.
Sensitivity	The extent to which a receptor can accept a change, of a particular type and scale, without unacceptable adverse effects.
Transboundary	Crossing into other European Economic Association (EEA) States.
Wind Turbine Generators (WTGs)	The wind turbines that generate electricity consisting of tubular towers, blades and the nacelle which houses the electrical generating equipment.

## ACRONYMS

Acronym	Full Text
AA	Appropriate Assessment
AC	Alternating Current
AEoSI	Adverse Effects on Site Integrity
BDMPS	Biologically Defined Minimum Population Scales
CA	Competent Authority
Cefas	Centre of Environment, Fisheries and Aquaculture Science
CES	Crown Estate Scotland
CJEU	Court of Justice of the European Union
DC	Direct Current
ECC	Export Cable Corridor
EDR	Effective Deterrence Range
EEA	European Economic Association
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMF	Electromagnetic Field
ES	Environmental Statement
EU	European Union
FCS	Favourable Conservation Status
FUE	Follow Up Exercise
FWPM	Freshwater Pearl Mussel
GW	Gigawatt
HDD	Horizontal Directional Drilling
HND	Holistic Network Design
HRA	Habitats Regulations Appraisal
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IAC	Inter-array Cables
IAMMWG	Inter-Agency Marine Mammal Working Group
INNS	Invasive Non-Native Species
IRC	Intermediate Reactive Compensation
IROPI	Imperative Reasons for Overriding Public Interest
JNCC	Joint Nature Conservation Committee
km	kilometre
kV	KiloVolt
LSE	Likely Significant Effect
m	metre
MARPOL	International Convention for the Prevention of Pollution from Ships
MCPC	Marine Pollution Contingency Plan
MD-LOT	Marine Directorate - Licensing Operations Team

MHWS	Mean High Low Water Springs
MLWS	Mean Low Water Springs
MPA	Marine Protected Area
MPCP	Marine Pollution Contingency Plans
MS	Marine Scotland
MSD	Marine Scotland Directorate
MW	Megawatt
NGESO	National Grid Electricity Systems Operator
NS	NatureScot
OA	Option Area
OGI	Offshore Generation Infrastructure
O&M	Operation and Maintenance
OSP	Offshore Substation Platform
OTI	Offshore Transmission Infrastructure
OTNR	Offshore Transmission Network Review
OWF	Offshore Wind Farm
PO	Plan Option
PTS	Permanent Threshold Shift
RAMSAR	Wetland site designated to be of international importance under the Ramsar Convention
REUL	Retained EU Law
RIAA	Report to Inform Appropriate Assessment
SAC	Special Area of Conservation
SCOS	Special Committee on Seals
SD	Standard Deviation
SMP	Sectoral Marine Plan
SNCB	Statutory Nature Conservation Body
SPA	Special Protection Area
SSC	Suspended Sediment Concentrations
SSE	Scottish and Southern Electricity
TTS	Temporary Threshold Shift
UK	United Kingdom
UXO	Unexploded ordnance
WTG	Wind Turbine Generator
WWT	Wildfowl and Wetland Trust
ZoI	Zone of Influence

# 1 INTRODUCTION

## 1.1 Background

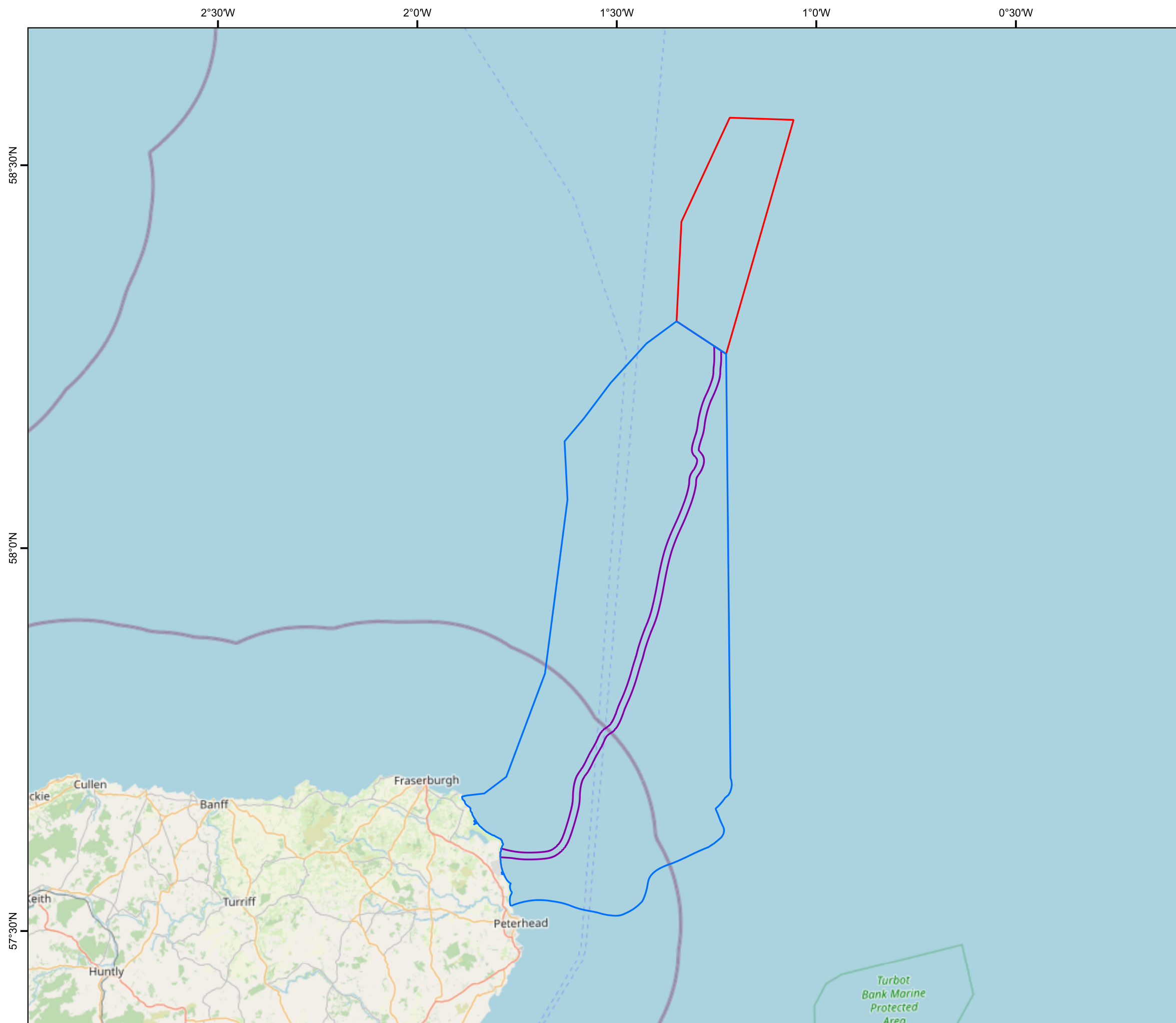
This Offshore Habitat Regulation Appraisal (HRA) Screening Report supports Buchan Offshore Wind Limited's (hereafter referred to as 'the Applicant') request for advice on their approach to conducting a HRA from Marine Directorate, acting on behalf of Scottish Ministers, for all offshore elements of the Buchan Offshore Wind Farm. Buchan Offshore Windfarm (OWF) (the 'Project') is located within Policy Option (PO) NE8 identified in the Scottish Government's Adopted Sectoral Marine Plan (SMP), with transmission assets infrastructure coming from NE8 to landfall. The project is a floating windfarm of up to 1 Gigawatt (GW) generating capacity.

Crown Estate Scotland (CES) launched the ScotWind leasing process in 2021 to facilitate the expansion of offshore wind 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 ScotWind leasing process used the SMP (Scottish Government, 2020), which identified a number of POs for offshore wind development, as the framework for the leasing process.

The Applicant was awarded the development rights for the ScotWind NE8 PO in January 2022. The Option Area (OA) awarded through the ScotWind leasing process covers an area of 330 km<sup>2</sup>. The Array Area, which will be located within the OA, will contain the Offshore Generation Infrastructure (OGI) including Wind Turbine Generators (WTGs), inter-array cables (IACs), interconnector cables, moorings, and anchors. The Array Area will also contain the Offshore Substation Platforms (OSPs), which form part of the Offshore Transmission Infrastructure (OTI). Additional OTI will be located outside of the Array Area within the Export Cable Corridor (ECC) Search Area (Figure 1.1), including export cables and an Intermediate Reactive Compensation (IRC) platform, and will export the electricity generated to landfall. Collectively the OGI and OTI seaward of Mean High Water Springs (MHWS) are referred to as the 'Proposed Development'. All infrastructure will be located within the boundary of the Proposed Development which comprises the Array Area and ECC Search Area as illustrated in Figure 1.1.

The Proposed Development is located seaward of MHWS out to Scottish offshore waters, and the onshore infrastructure, which will be subject to a separate onshore planning application under The Town and Country Planning (Scotland) Act 1997, is located landward of Mean Low Water Springs (MLWS). A more detailed description of the Proposed Development is provided in Section 1.3 - Overview of the Proposed Development of this Report. For the purposes of this Offshore HRA Screening Report, the Proposed Development refers to the offshore infrastructure only.

The Applicant has and continues to engage extensively with National Grid Electricity Systems Operator (NGESO) and Scottish and Southern Electricity (SSE) Transmission regarding the grid connection for the Project. Initially through preparation of the ScotWind Leasing bid, and subsequently as part of the Offshore Transmission Network Review (OTNR) and Holistic Network Design (HND) Follow up Exercise (FUE) processes. The outcome of the HND FUE, which is yet to be published, will detail the grid connection location relevant to the Project but is expected to comprise a radial connection to the Peterhead area.



Project:  
**Buchan Offshore Wind**

Title:  
**Figure 1.1: Location of Proposed Development**

**Key**

- Array Area
- Export Cable Corridor (ECC) Search Area
- Preferred Export Cable Corridor (ECC)

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**Scale @ A3: 1:550,000**  
 Coordinate System: WGS 84 UTM Zone 30N  
 Graticules: WGS84

0 10 20 30 40 km

Date: 18-12-23	Prepared by: DM	Checked by: HM
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Map Ref: GB204095\_M\_094\_A

BUCHAN  
OFFSHORE  
WIND

Notes: a) Information on this plan is directly reproduced from digital and other material from different sources. Minor discrepancies may therefore occur. Where further clarification is considered necessary, this is noted through the use of text boxes on the plan itself. b) For the avoidance of doubt and unless otherwise stated: 1.this plan should be used for identification purposes only, unless otherwise stated in accompanying documentation. 2. Buchan Offshore Wind Ltd accepts no responsibility for the accuracy of data supplied by third parties. 3.Buchan Offshore Wind Ltd accepts no liability for any use which is made of this plan by a party other than its client. No third party who gains access to this plan shall have any claim against Buchan Offshore Wind Ltd in respect of its contents.

## 1.2 The Applicant

The Applicant is a joint venture between BW Ideol, Elicio, and BayWa r.e. The alliance brings together three companies with highly significant, relevant and complementary expertise, which has the potential to accelerate the development of floating wind and bring significant levels of employment to Scotland.

## 1.3 Overview of the Proposed Development

The Array Area is located approximately 75 km north-east of Fraserburgh in the outer Moray Firth. The OA awarded to the Applicant by Crown Estate Scotland (CES) comprises an area of approximately 330 km<sup>2</sup>. The extent of the OA that will be required to support the Proposed Development, and the extent of the Array Area within the OA, is not finalised at the time of writing and may be refined as part of the Environmental Impact Assessment (EIA) and design process. This will take account of site conditions, design and engineering studies, ongoing consultation and consideration of environmental impacts as a result of the EIA and HRA and the need to mitigate potential impacts to sensitive receptors.

The selection of the ECC Search Area and the Preferred ECC has been informed through engagement with NGENSO and SSE Transmission, initially through preparation of the ScotWind Leasing bid, and subsequently as part of the OTNR and HND FUE processes. It is anticipated that the grid connection location will be within the Peterhead area of Aberdeenshire and understanding the likely grid connection location has allowed the Applicant to undertake a routing exercise and site selection process within an area between Peterhead and Fraserburgh in Aberdeenshire and has allowed the Applicant to identify an ECC Search Area, a Preferred ECC, and provisional Landfall Area.

The Preferred ECC that has been identified by the Applicant has been informed by detailed desk-based risk and constraints analysis, optioneering studies, site walkover, and consultation feedback.. The Applicant has also engaged locally in Fraserburgh and Peterhead with commercial fishers to inform the identification of the Preferred ECC. It is considered by the Applicant, in light of this information and at this stage of the Applicant's pre-application information gathering to be the most feasible and appropriate ECC within the ECC Search Area. The Preferred ECC is provided for illustrative purposes only, and the Proposed Development for which advice on the HRA Screening Report is sought should be based on the spatial extent of the ECC Search Area (and Array Area) rather than the Preferred ECC.

The process to refine the ECC and final landfall location is ongoing and will be supported by more detailed consideration of environmental, design, risk, and deliverability studies. These will be informed by results from the 2023 Site Investigation campaign, which surveyed the Preferred ECC to understand the detailed environmental and engineering issues at a scale that allows a more informed decision to be taken. Further detail of routing methodology and consideration of alternatives will be provided in the Environmental Impact Assessment Report (EIAR) Site Selection and Alternatives Chapter, and other supporting documents as appropriate.

At this stage, as is common with offshore windfarms, a range of possible project parameters remain under consideration to allow flexibility to respond to environmental, technical, commercial and supply chain considerations that arise as the development of the Proposed Development progresses.

The Proposed Development includes the following offshore infrastructure:

- Offshore Generation Infrastructure (OGI):



- Up to 70 WTGs (each comprising a tower section, nacelle and three rotor blades) and associated supporting structures including floating foundations, mooring and anchoring systems within the Array Area; and
- A network of dynamic or flexible IACs linking the individual WTGs together and connecting an array of WTGs to an OSP. The OSPs (which form part of the OTI) will also be connected together by IACs to form a power collection network within the OWF; and
- Scour and cable protection.
- Offshore Transmission Infrastructure (OTI):
  - Up to three fixed bottom OSPs and associated support structures, foundations and scour protection;
  - Up to three offshore export cables (with either High Voltage Alternative Current (HVAC) or High Voltage Direct Current (HVDC) transmission options) connecting the OSPs to the landfall location on the Aberdeenshire coast;
  - An IRC platform (should an HVAC transmission option be chosen) located in the ECC Search Area; and
  - Cable protection and / or utility crossings where required.

The offshore infrastructure is located seaward of MHWS and the onshore infrastructure, which will be subject to a separate Onshore planning application, is located landward of MLWS. For clarity regarding the onshore and offshore consenting regimes in relation to the intertidal area located between MHWS and MLWS the following distinctions are made:

- The Offshore HRA Screening Report considers all activities associated with the Proposed Development extending seawards from MHWS (this includes both the OGI and OTI); The Onshore HRA will consider all activities and infrastructure extending landwards from MLWS. This includes landfall infrastructure, onshore cabling, onshore substation and associated ancillary infrastructure (such as jointing bays, construction compounds and lay down areas); and
- Where there is an overlap in jurisdiction of consenting and regulatory regimes (i.e., within the intertidal area), both the Offshore and the Onshore HRAs, will present relevant technical assessments.

The process of decommissioning will to a large extent depend on the final details of the infrastructure built out. This will not be determined until after the consent is granted for the Proposed Development, but it is considered to largely be a reverse of the construction methodology.

A summary of the key design parameters for the Proposed Development are included in Table 1.1.

Table 1.1 - High level Design Parameters of the Proposed Development	
Description / Parameter	Maximum Design Scenario
Estimated Construction Period	3 - 5 years
Option Area	330 km <sup>2</sup>
Distance of Array Area from shore (closest distance)	75 km
Water depths across array	73 – 108 m
Number of WTGs	Up to 70
Maximum WTG rotor diameter	310 m
Maximum WTG tip height	355 m
Minimum rotor clearance above sea level	30 m
WTG Floating Foundation Type	A range of floating foundation options including semi-submersible, spar buoy and Tension Leg Platform are included in the Design Envelope to retain flexibility. However, the preferred foundation solution is the BW Ideol floating damping pool technology.
WTG Floating Foundation anchors and mooring	The preferred mooring system is expected to be a catenary mooring system, with up to nine mooring lines per turbine. Anchoring options under consideration include but are not limited to suction piles, drilled piles, driven piles and drag embedment anchors.
Maximum number of OSPs	3
OSP and IRC Foundation Options	Monopile or jacket foundations which may use a combination of suction, drilled or driven piles.
Maximum number of Export Cables	3
Number of IRC Platforms	One IRC platform located within the ECC search area
Landfall cable installation options	Open trench or trenchless (e.g. horizontal directional drilling (HDD))

## 1.4 Purpose of this Document

This HRA Screening Report is of the Array Area and ECC Search Area which form the boundary of the Proposed Development. The purpose of the Offshore HRA Screening Report is to provide the information to support screening for Likely Significant Effect (LSE) required by the following set of regulations (hereby referred to as the ‘Habitats Regulations’):

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

It comprises the screening stage and provides information to enable screening of the Proposed Development with respect to its potential to have LSE on European sites, either alone, or in combination with other plans and projects.

Where no potential for LSE is predicted on a European site, either alone or in combination with other plans and projects, the site will be screened out and no further assessment carried out. Where LSE cannot be ruled out, a more detailed assessment will be required in the form of a Report to Inform an Appropriate Assessment (RIAA).

This report will:

- Identify any existing European sites which may include features such as Annex I habitats, Annex I birds and Annex II species, which may be sensitive or vulnerable to potential impacts arising from the construction, operation and maintenance (O&M) and decommissioning of the Proposed Development;
- Consider the qualifying features of the relevant European sites and to identify those which are not considered likely to be at risk of LSE arising from the Proposed Development, either alone or in combination with other projects or plans, so they may be eliminated from further consideration within the HRA process;
- Consider qualifying features of the relevant European sites and identify those which are considered likely to be at risk of LSE arising from the Proposed Development, whether alone or in-combination with other projects and plans, so they may be taken forward to Appropriate Assessment (AA); and
- Consider which of the potential impacts arising from the Proposed Development are considered likely to result in LSE to features of European sites, and which impacts can be eliminated from consideration in further stages of the HRA, also recognising the potential for non-significant effects to accumulate or act in-combination.

Potential impacts of onshore components of the Proposed Development on European sites landward of MHWS are outside the scope of this report and will be considered separately. Impacts from the Proposed Development that could have likely significant effects on onshore receptors will be considered within this report. Impacts from the onshore elements of the Project on offshore receptors will be considered in the Onshore HRA Screening Report. Onshore components of the Project will be considered as part of an in-combination assessment where relevant. This assessment will account for in-combination likely significant effects of the Proposed Development on receptors that traverse both onshore and offshore areas.

The screening presented within this report is based on the current understanding of the baseline environment (including European sites, their boundaries, qualifying features and conservation status), and proposed activities associated with the Proposed Development. Any changes which may arise as a result of further data gathering, (such as environmental surveys, assessment work, consultee responses, refinement of the Proposed Development design, and any new or alterations to relevant European sites) would be captured by updating the Offshore HRA Screening Report, and / or the RIAA. Should this arise the approach to updating the HRA will be discussed with consultees including NatureScot and MD-LOT.

## 2 THE HRA PROCESS

### 2.1 Legislative Context

#### 2.1.1 Habitats Directive and Habitats Regulations

The European Union (EU) legal framework for the protection of wild fauna and flora, and birds comprises two key pieces of legislation (hereby referred to as the ‘Habitats Directives’);

- The Habitats Directive (EU Council Directive 92/43/EEC), on the conservation of natural habitats and of wild fauna and flora, protects habitats and species of European nature conservation importance; and
- The Birds Directive (EU Council Directive 2009/147/EC), on the conservation of wild birds.

The Habitats Directives place obligations on EU member states to achieve or maintain, at a Favourable Conservation Status (FCS), habitats and species listed under Annexes I and II of the Habitats Directive and Annex I of the Wild Birds Directive.

A network of protected areas for specific habitats and species of importance (known as European sites) was established by EU member states under the Habitats Directive. In Scotland, these are implemented through the Habitats Regulations:

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

The Habitats Regulations require that a Competent Authority (CA) must determine that a plan or project will not result in an adverse effect on the integrity of a European site, either alone or in combination, before granting regulatory consent for the project<sup>1</sup>. Where it is not possible to determine there will be no adverse effect on the integrity of a European site, consent should only be granted if the requirements of Step 3 of the HRA process are satisfied (consideration of alternatives, determination of Imperative Reasons for Overriding Public Interest (IROPI) and securing adequate compensatory measures).

#### 2.1.2 Post-EU Exit Amendments

In January 2020, the UK withdrew from the EU and since January 2021 the UK is no longer bound by EU legislation (unless this has been incorporated into UK law as Retained EU Law (REUL)) and the UK’s designated European sites are no longer part of the Natura 2000 network but instead combine to form the UK’s ‘National Site Network’.

Although the UK is no longer an EU Member State, the Habitats Directive (and transposing Habitats Regulations) continue to provide the legislative backdrop for HRA in the UK through the EU Exit Regulations. Subject to minor amendments affected by the EU Exit Regulations, the HRA process

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<sup>1</sup> Unless not directly connected to, or necessary to the conservation of a European site.

implemented under the Habitats Regulations continues to apply and the UK is bound by HRA judgements handed down by The Court of Justice of the European Union (CJEU) prior 31 December 2020.

The UK and Scottish Parliament passed EU-Exit legislation<sup>2</sup> to ensure that nature in Scotland remains protected to at least the same standard as previously under EU environmental standards, with a further longer-term ambition to exceed these. This resulted in certain aspects of the Habitats Regulations being amended in Scotland, however these were only those necessary to ensure the Habitats Regulations remained operable and to ensure that the requirements of the Habitats Directive must continue to apply to how European sites are designated and protected.

This document is prepared on the basis that all relevant HRA related legislation remains in place and in accordance with Habitats Regulations that transposed the European requirements for HRA into UK law and as affected by the EU Exit Regulations (2019).

## 2.2 The HRA Process

Despite the UK having no obligations under the Habitats Directive, the wording of Article 6(3) and 6(4) of the Habitats Directive underlies the sequential decision-making tests as part of the HRA process, applied to plans or projects likely to affect European sites. The European Commission's guidance on Planning for the Protection of European Sites: Appropriate Assessment (European Commission, 2001) identifies a staged approach to the assessment of the effects of any plans or projects on European sites, together referred to as HRA. There are potentially up to three stages in the process:

- Stage 1: LSE Screening;
- Stage 2: AA;
- Stage 3: Consideration of Alternative Solutions, assessment of IROPI and identification of compensatory measures.

HRA is generally recognised as a progressive, three-stage process built around the wording of Articles 6(3) and 6(4) of the Habitats Directive as they have been brought into effect in domestic legislation via the Habitats Regulations, with the outcome at each stage defining the requirement for and scope of the next. Compliance with the requirements of the Habitats Regulations can be demonstrated if the stages are followed in the correct sequence.

The Habitat Regulations require the provision of such information as the CA may reasonably require for the purposes of the assessment. This report and any subsequent HRA reporting (including the RIAA) will provide such information.

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<sup>2</sup> The Conservation (Natural Habitats, &c.) (EU Exit) (Scotland) (Amendment) Regulations 2019 and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

### 3 HRA SCREENING METHODOLOGY

#### 3.1 Screening Process

##### 3.1.1 Overview

This section provides a high-level overview of the HRA Screening process, following a stepwise methodology and has been used throughout the report for the specific receptor topics:

- Annex I habitats;
- Annex II marine mammals;
- Annex I offshore and intertidal ornithology; and
- Annex II migratory fish.

##### 3.1.2 Identification of European Sites and Features with Connectivity

The identification of European sites and their qualifying features with potential connectivity to the Proposed Development is required to determine if there is potential for LSE. In general, the approach requires determination if there is potential for spatial overlap between the qualifying feature (including its spatial range for mobile species e.g., foraging range for ornithology features) and the Zone of Influence (ZoI)/area of impact associated with the Proposed Development. Where there is potential connectivity between a European site and/or its qualifying feature(s), the potential for LSE will be considered further to allow a determination of whether the potential for LSE exists. Each receptor topic has defined relevant criteria used to determine connectivity, and the outcome of this step is a list of all European sites and features for which there is potential connectivity with the Proposed Development.

##### 3.1.3 Determination of no Likely Significant Effect (LSE)

Where potential connectivity has been identified between qualifying features of European sites and the Proposed Development, further appraisal is required to determine whether no LSE can be concluded for European sites and their qualifying features.

To determine the potential for LSE it is important to consider whether the qualifying feature would, by virtue of its behavioural or lifecycle characteristics, be affected by a particular impact. Where a qualifying feature is likely to be affected, it will need to be determined whether or not this is likely to lead to a significant effect on the conservation objectives of a European site or not. The assessment of LSE combines information on characteristics of qualifying interest features and details of the effect pathways.

### 3.2 Stakeholder Consultation to Date

The following consultation has been undertaken to date with regards to Buchan Offshore HRA:

- 24 April 2023 - Buchan HRA and scoping approach sent to MD-LOT and NatureScot;
- 15 May 2023 - Pre-Scoping workshop with consultees including MD-LOT, NatureScot, JNCC and RSPB; and
- 16 May 2023 - Ornithology pre-scoping workshop with NatureScot.

Further details on engagement and consultation can be found in Section 5.5 of the [Buchan Offshore EIA Scoping Report](#) including baseline survey design, and the approach to ornithology impact modelling.

## 4 IDENTIFICATION OF EUROPEAN SITES

### 4.1 Site Identification Process

This section identifies the criteria used for site identification for each receptor group and details which European sites have been screened in for further consideration to determine the potential for LSE.

### 4.2 Annex I Habitats

The publicly available information on tidal range in the vicinity of the Proposed Development describes a maximum tidal excursion of between 5 km at the Array Area and 15 km at the landward end of the ECC Search Area (ABPmer *et al.*, 2008). However, a precautionary range of 25 km has been applied as the distance used to determine potential connectivity for any impacts resulting from the Proposed Development on European sites designated for marine Annex I habitats. This is based on the impact with the largest ZoI which is considered to be increased suspended sediment concentrations and deposition. This distance is applied in the absence of site-specific physical process modelling outputs which will be available post-submission of this HRA Screening Report. Should the outputs of the modelling indicate that the ZoI is greater than the 25 km used herein, screening will be revisited to determine if any additional European sites warrant inclusion. It is however considered that the 25 km distance is adequately precautionary based on current understanding from a recognised source of publicly available data for waves, tides and winds in UK waters (ABPmer *et al.*, 2008). This approach was discussed and agreed with stakeholders during the Pre-Scoping workshop on 15<sup>th</sup> May 2023 (see Section 8.3 of the [Buchan Offshore Wind EIA Scoping Report](#)).

There are no SACs designated for Annex I habitats within 25 km of the Proposed Development (Table 4.1). The closest SAC to the Proposed Development designated for Annex I habitats is the Moray Firth SAC, designated for subtidal sandbanks which are slightly covered by sea water all the time. This SAC is over 120 km from the Proposed Development Array Area, and over 80 km from the ECC Search Area.

Due to the distance between the Proposed Development and all SACs designated for marine Annex I habitats, it is considered that there is no connectivity with the Proposed Development and no pathway for effect with any European site. There is therefore no potential for LSE to arise on any SAC designated for marine Annex I habitats.

Site Name	Site Code	Qualifying Feature	Distance to the Array Area at the closest point (Km)	Distance to the ECC Search Area at the closest point (Km)	Connectivity
Moray Firth SAC	UK0019808	Subtidal sandbanks which are slightly covered by sea water all the time	129.0	81.3	No
Sanday SAC	UK0030069	Intertidal mudflats and sandflats Subtidal sandbanks Reefs	103.3	121.9	No



### 4.3 Annex II Marine Mammals

The following marine mammal species are listed under Annex II of the Habitats Directive (European Union Council Directive 92/43/EEC), for which SACs have been designated in the UK and Europe:

- Bottlenose dolphin (*Tursiops truncatus*);
- Harbour porpoise (*Phocoena phocoena*);
- Grey seal (*Halichoerus grypus*); and
- Harbour or common seal (*Phoca vitulina*).

The HRA screening process has considered sites designated for each of the above species. A ZoI of 26 km (JNCC, 2020) has been used as a buffer around the Proposed Development (including the Array Area and ECC Search Area), to account for potential impacts from underwater noise generation from construction activities. This is because the construction of the Proposed Development may require the use of percussive piling for the installation of WTG floating foundation anchors, OSP foundations (located within the Array Area) and IRC platform (located within the ECC). The 26 km buffer is in lieu of the outputs of specific underwater noise modelling which will not be undertaken until after the submission of this screening report. A 26 km buffer is precautionary because 26 km is the effective deterrence range (EDR; JNCC, 2020) for piling of monopiles. Although monopiles are not included in the Design Envelope for the WTGs for the Proposed Development, underwater noise modelling zones for pin piles, which are included in the Design Envelope for the WTGs, are unlikely to exceed this range (JNCC, 2020). Monopiles are included in the Design Envelope for the OSP and IRC platform. Underwater noise is considered at this stage to have the greatest potential for impact upon marine mammals, and should the outputs of the modelling indicate that the ZoI is greater than the 26 km used herein, screening will be revisited to determine if any additional European sites warrant inclusion.

#### 4.3.1 Seals

The following criteria have been used to determine potential for connectivity between the Proposed Development and seal SACs:

- Grey seal SACs within 50 km of the Proposed Development plus 26 km buffer; and
- Harbour seal SACs within 20 km of the Proposed Development plus 26 km buffer.

These criteria are based on typical foraging ranges of each species e.g., SCOS (2022), McConnell *et al.* (1999), Sharples *et al.* (2012). It is considered that any SAC outwith this range designated for seals has no connectivity with the Proposed Development, and thus no potential for LSE. Criteria were agreed with NatureScot<sup>3</sup>. No SACs with seals as qualifying features have been selected for screening because:

- No grey seal SACs lie within 50 km of the Proposed Development plus 26 km buffer (the closest is the Faray and Holm of Faray SAC which is 120 km from the Proposed Development); and

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<sup>3</sup> Agreed on 15/05/2023 during the pre-scoping workshop with NatureScot

- No harbour seal SACs lie within 20 km of the Proposed Development plus 26 km buffer (the closest is the Sanday SAC which is 104 km away from the Proposed Development).

#### 4.3.2 Cetaceans

Potential for connectivity between the Proposed Development and cetacean SACs has been determined through use of the UK Inter Agency Marine Mammal Working Group (IAMMWG, 2023) management units. The Proposed Development lies within the Greater North Sea and Coastal East Scotland management units for bottlenose dolphin, and the North Sea management unit for harbour porpoise. SACs that are within or overlap the management units for these species are detailed in Table 4.2 and shown in Figure 4.1 (bottlenose dolphin) and Figure 4.2 (harbour porpoise). These sites will be considered in screening for the potential for LSE. In summary, the Proposed Development has potential for connectivity with:

- One bottlenose dolphin SAC (Moray Firth SAC); and
- Thirty three harbour porpoise SACs.

<b>Table 4.2 – Connectivity between the Proposed Development and European Sites designated for marine mammals which have potential for connectivity with the Proposed Development</b>						
Number	Site Name	Site Code	Qualifying Feature	Distance to the Array Area at the closest point (Km)	Distance to the ECC Search Area at the closest point (Km)	Connectivity
UK						
1	Moray Firth	UK0019808	Bottlenose dolphin	129	81.3	Yes
2	Southern North Sea	UK0030395	Harbour porpoise	330.6	265.8	Yes
Netherlands						
3	Doggersbank	NL2008001	Harbour porpoise	411.1	365.6	Yes
4	Klaverbank	NL2008002	Harbour porpoise	504.8	447.6	Yes
5	Noordzeekustzone	NL9802001	Harbour porpoise	666.9	615.3	Yes
6	Waddenzee	NL1000001	Harbour porpoise	676.9	623.8	Yes
7	Voordelta	NL4000017	Harbour porpoise	768.8	706.8	Yes
8	Vlakte van de Raan	NL2008003	Harbour porpoise	796.6	730.3	Yes
9	Westerschelde & Saeftinghe	NL9803061	Harbour porpoise	805.0	739.3	Yes
Germany						
10	Doggerbank	DE1003301	Harbour porpoise	413.6	372.4	Yes
11	Sylter Außenriff	DE1209301	Harbour porpoise	590.8	555.8	Yes
12	SPA Östliche Deutsche Bucht	DE1011401	Harbour porpoise	615.1	586.3	Yes
13	Borkum-Riffgrund	DE2104301	Harbour porpoise	653.9	610.5	Yes
14	NTP S-H Wattenmeer und	DE0916391	Harbour porpoise	666.8	639.7	Yes

	angrenzende Küstengebiete					
15	Nationalpark Niedersächsisches Wattenmeer	DE2306301	Harbour porpoise	696.9	653.8	Yes
16	Helgoland mit Helgoländer Felssockel	DE1813391	Harbour porpoise	715.7	680.7	Yes
17	Steingrund	DE1714391	Harbour porpoise	721.1	686.7	Yes
18	Untereibe	DE2018331	Harbour porpoise	783.3	748.8	Yes
19	Unterweser	DE2316331	Harbour porpoise	786.0	749.1	Yes
Denmark						
20	Gule Rev	DK00VA259	Harbour porpoise	548.0	549.9	Yes
21	Sydlig Nordø	DK00VA347	Harbour porpoise	570.4	544.3	Yes
22	Store Rev	DK00VA258	Harbour porpoise	608.2	617.5	Yes
23	Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde	DK00AY176	Harbour porpoise	635.9	613.1	Yes
24	Skagens Gren og Skagerak	DK00FX112	Harbour porpoise	642.9	652.5	Yes
Sweden						
25	Kosterfjorden-Väderöfjorden	SE0520170	Harbour porpoise	719.7	731.4	Yes
Belgium						
26	Vlaamse Banken	BEMNZ0001	Harbour porpoise	783.9	714.2	Yes
27	Vlakte van de Raan	BEMNZ0005	Harbour porpoise	798.5	731.5	Yes
France						
28	Bancs des Flandres	FR3102002	Harbour porpoise	801.0	730.9	Yes
29	Récifs Gris-Nez Blanc-Nez	FR3102003	Harbour porpoise	834.8	766.7	Yes
30	Ridens et dunes hydrauliques du détroit du Pas-de-Calais	FR3102004	Harbour porpoise	842.2	772.3	Yes
31	Falaises du Cran aux Oeufs et du Cap Gris-Nez, Dunes du Chatelet, Marais de Tardinghen et Dunes de Wissant	FR3100478	Harbour porpoise	845.6	775.6	Yes
32	Baie de Canche et couloir des trois estuaires	FR3102005	Harbour porpoise	884.8	815.4	Yes
33	Baie de Seine orientale	FR2502021	Harbour porpoise	1037.3	967.4	Yes
34	Baie de Seine occidentale	FR2502020	Harbour porpoise	1062.3	994.8	Yes



10°0'W

0°0'

10°0'E

20°0'E

60°0'N

50°0'N

Project:  
**Buchan Offshore Wind**

Title:  
**Figure 4.1: SACs Designated for Bottlenose Dolphins Considered at LSE Screening**

- Key**
- Array Area
  - Export Cable Corridor Search Area
  - Preferred Export Cable Corridor (ECC)
  - Moray Firth SAC
  - Coastal East Scotland Management Unit
  - Greater North Sea Management Unit

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Scale @ A3: 1:6,500,000

Coordinate System: WGS 84 UTM Zone 30N  
Graticules: WGS84

0 20 40 60 80 km



Date: 18-12-23

Prepared by: DM

Checked by: HM

Map Ref: GB204095\_M\_093\_A

**BUCHAN  
OFFSHORE  
WIND**

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10°0'W

0°0'

10°0'E


20°0'E

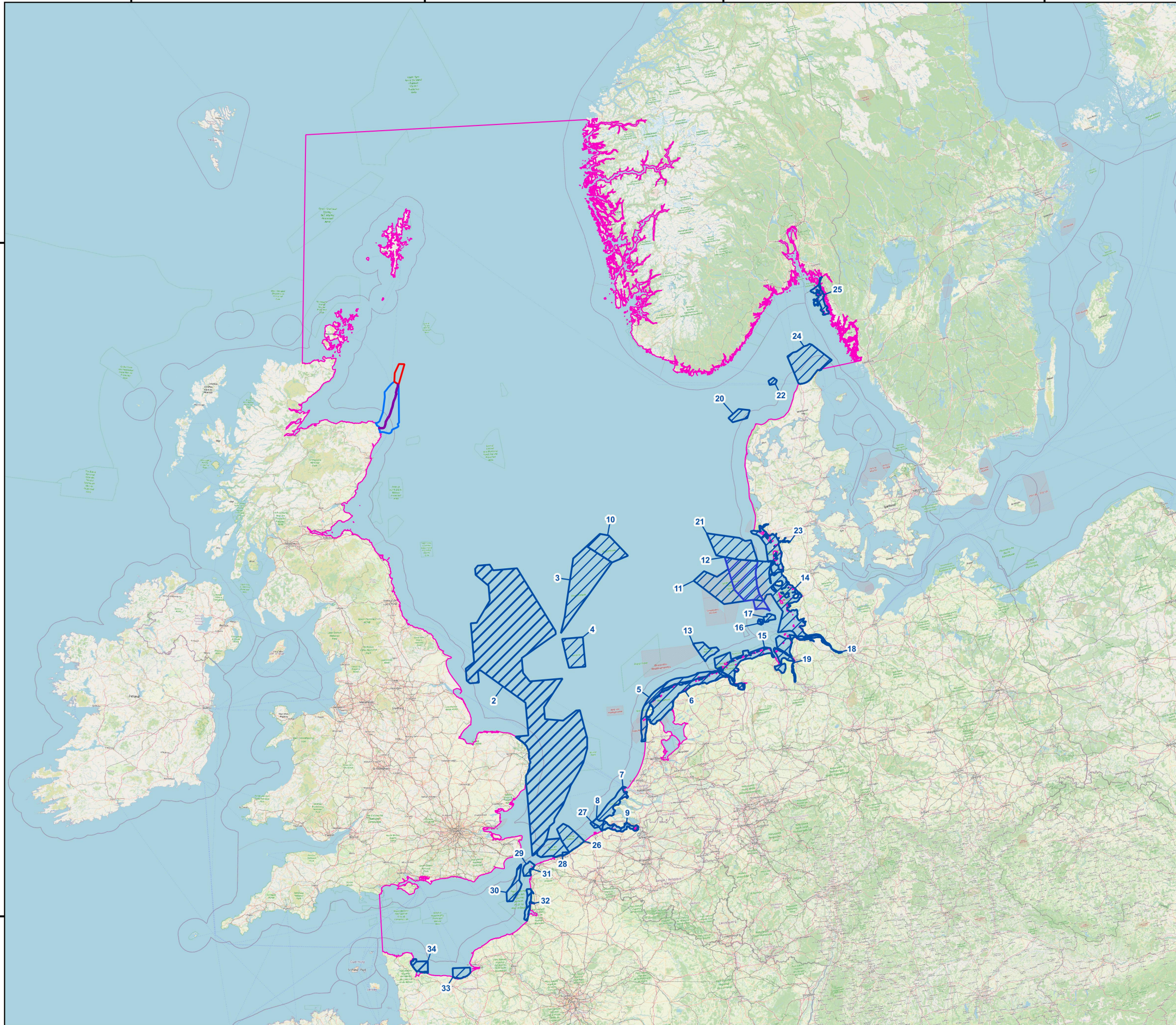
60°0'N

50°0'N

Project:  
**Buchan Offshore Wind**

Title:  
**Figure 4.2: SACs Designated for Harbour Porpoise Considered at LSE Screening**

- Key
-  Array Area
  -  Export Cable Corridor Search Area
  -  Preferred Export Cable Corridor (ECC)
  -  Special Area of Conservation (SAC)
  -  North Sea Management Unit



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Scale @ A3: 1:6,500,000

Coordinate System: WGS 84 UTM Zone 30N  
Graticules: WGS84

0 20 40 60 80 km



Date: 18-12-23

Prepared by: JO

Checked by: HM

Map Ref: GB204095\_M\_127\_A

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#### 4.4 Offshore and Intertidal Ornithology (Annex I Birds)

The approach to identify all European sites (Special Protection Area (SPA) and Ramsar sites) with designated ornithology features (both breeding/non-breeding seabirds and waterbirds) which may be affected by the Proposed Development is as per the following criteria:

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

The above criteria and the recommended foraging ranges (Table 4.3) are used to identify European sites with ornithological qualifying features which have potential connectivity with the Proposed Development (Table 4.4 and Figure 4.3).

Species	Recommended foraging range (km)	Metric
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 SD
Manx shearwater	2365.5	Mean maximum + 1 SD
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 SD
Shag	23.7	Mean maximum + 1 SD
Cormorant	33.9	Mean maximum + 1 SD
Kittiwake	300.6	Mean maximum + 1 SD
Black-headed gull	18.5	Maximum / mean maximum
Common gull	50	Maximum / mean maximum
Great black-backed gull	73	Maximum / mean maximum
Herring gull	85.6	Mean maximum + 1 SD
Lesser black-backed gull	236	Mean maximum + 1 SD
Sandwich tern	57.5	Mean maximum + 1 SD
Little tern	5	Maximum / mean maximum
Roseate tern	23.2	Mean maximum + 1 SD
Common tern	26.9	Mean maximum + 1 SD
Arctic tern	40.5	Mean maximum + 1 SD
Great skua	931.2	Mean maximum + 1 SD
Arctic skua	2.7	Mean + 1 SD
Guillemot	153.7 for Northern Isles SPAs 95.2 for all other locations	Mean maximum + 1 SD
Razorbill	164.6 for Northern Isles SPAs 122.2 for all other locations	Mean maximum + 1 SD
Black guillemot	9.1	Mean maximum + 1 SD
Puffin	265.4	Mean maximum + 1 SD

Site Name	Site Code	Qualifying Features	Distance to the Array Area at the closest point (km)	Distance to ECC Search Area at the closest point (km)
Loch of Strathbeg SPA and Ramsar	UK9002211 GB778RIS	Breeding: Sandwich tern Non-breeding: goldeneye, pink-footed goose, whooper swan, barnacle goose, greylag goose, teal	76.7	0.00 <sup>4</sup>
Troup, Pennan and Lion's Heads SPA	UK9002471	Breeding: fulmar, guillemot, herring gull, kittiwake, razorbill	82.05	24.49
Buchan Ness to Collieston Coast SPA	UK9002491	Breeding: fulmar, kittiwake, guillemot, herring gull, shag	89.43	8.65
Scapa Flow SPA	UK9020321	Breeding: red-throated diver Non-breeding: black-throated diver, eider, great northern diver, long-tailed duck, red-breasted merganser, shag, Slavonian grebe	97.4	102.49
Copinsay SPA	UK9002151	Breeding: fulmar, kittiwake, guillemot, great black-backed gull	90.06	99.34
Auskerry SPA	UK9002381	Breeding: European storm petrel, Arctic tern	94.22	111.17

<sup>4</sup> A distance of 0 km means a spatial overlap between the Proposed Development and the designated site.

<b>Site Name</b>	<b>Site Code</b>	<b>Qualifying Features</b>	<b>Distance to the Array Area at the closest point (km)</b>	<b>Distance to ECC Search Area at the closest point (km)</b>
Moray Firth SPA	UK9020313	Breeding: shag Non-breeding: common scoter, eider, goldeneye, great northern diver, long-tailed duck, red-breasted merganser, red-throated diver, scaup, shag, Slavonian grebe, velvet scoter	98.4	49.31
North Caithness Cliffs SPA	UK9001181	Breeding: fulmar, kittiwake, puffin, razorbill, guillemot, peregrine	98.6	103.71
East Caithness Cliffs SPA	UK9001182	Breeding: fulmar, kittiwake, cormorant, great black-backed gull, guillemot, herring gull, razorbill, shag, peregrine	99.04	94.01
Fair Isle SPA	UK9002091	Breeding: fulmar, great skua, gannet, kittiwake, puffin, razorbill, guillemot, Arctic skua, Arctic tern, Fair Isle wren, shag	106.39	140.80
Hoy SPA	UK9002141	Breeding: fulmar, great skua, kittiwake, puffin, guillemot, Arctic skua, great black-backed gull, red-throated diver, peregrine	117.25	124.99
Calf of Eday SPA	UK9002431	Breeding: fulmar, kittiwake, guillemot, cormorant, great black-backed gull	118.48	135.31
Ythan Estuary Sands of Forvie & Meikle Loch SPA and Ramsar	UK9002221 GB939RIS	Breeding: common tern, little tern, Sandwich tern Non-breeding: pink-footed goose, lapwing, redshank, eider	122.2	28.92
Moray and Nairn Coast Ramsar	GB890RIS	Non-breeding: greylag goose, long-tailed duck	122.7	110.80
Rousay SPA	UK9002371	Breeding: fulmar, kittiwake, guillemot, Arctic tern, Arctic skua	124.25	137.45
West Westray SPA	UK9002101	Breeding: fulmar, kittiwake, guillemot, razorbill, Arctic skua, Arctic tern	129.97	148.35
Papa Westray (North Hill and Holm SPA)	UK9002111	Breeding: Arctic tern, Arctic skua	139.0	150.90
Sumburgh Herad SPA	UK9002511	Breeding: fulmar, kittiwake, guillemot, Arctic tern	143.09	174.41
Seas off Foula SPA	UK9020331	Breeding: great skua, fulmar, Arctic skua, guillemot, puffin Non-breeding: fulmar, guillemot, great skua	147.14	190.53
Marwick Head SPA	UK9002121	Breeding: kittiwake, guillemot	153.22	156.11
Fowlsheugh SPA	UK9002271	Breeding: fulmar, kittiwake, razorbill, herring gull, guillemot	154.63	78.25
Dornoch Firth and Loch Fleet SPA and Ramsar	GB897RIS	Breeding: osprey Non-breeding: curlew, dunlin, greylag goose, oystercatcher, redshank, scaup, teal, wigeon, bar-tailed godwit	159.5	123.11
Inner Moray Firth SPA and Ramsar	UK9001624 GB13025	Breeding: common tern, osprey Non-breeding: bar-tailed godwit, cormorant, curlew, goldeneye, goosander, greylag goose, red-breasted merganser, redshank, oystercatcher, scaup, teal, wigeon	171.7	134.28
Cromarty Firth SPA and Ramsar	UK9001623 GB1001RIS	Breeding: common tern, osprey Non-breeding: bar-tailed godwit, curlew, dunlin, greylag goose, knot, oystercatcher, pintail, red-breasted merganser, redshank, scaup, whooper swan, wigeon	172.9	134.38
Noss SPA	UK9002081	Breeding: fulmar, gannet, great skua, kittiwake, puffin, guillemot	174.8	212.21
Mousa SPA	UK9002361	Breeding: European storm petrel, Arctic tern	177.0	195.31
Foula SPA	UK9002061	Breeding: Arctic skua, Arctic tern, fulmar, great skua, guillemot, kittiwake, Leach's	177.38	217.74

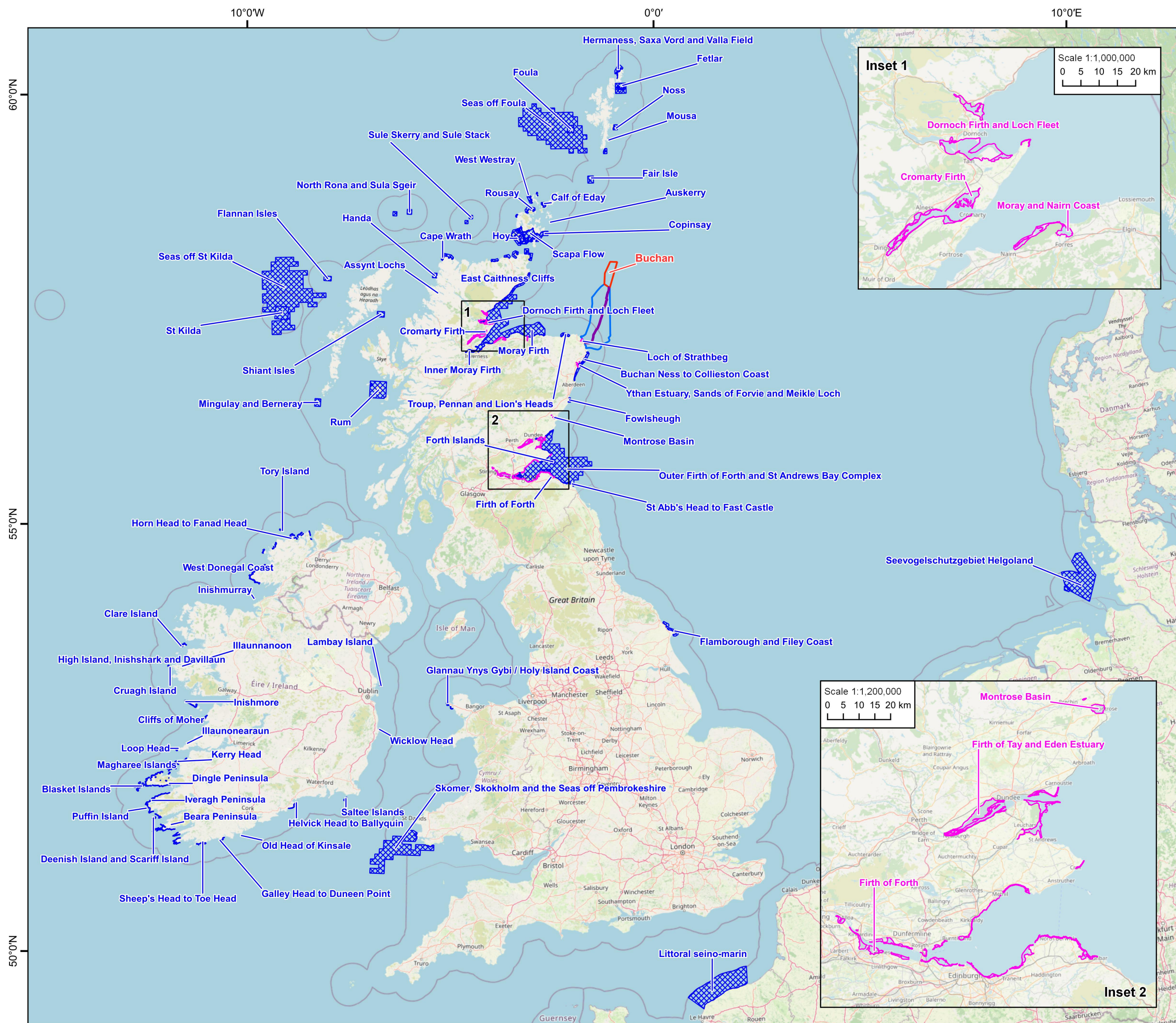


<b>Site Name</b>	<b>Site Code</b>	<b>Qualifying Features</b>	<b>Distance to the Array Area at the closest point (km)</b>	<b>Distance to ECC Search Area at the closest point (km)</b>
		storm petrel, puffin, razorbill, red-throated diver, shag		
Sule Skerry and Sule Stack SPA	UK9002181	Breeding: gannet, Leach's storm petrel, puffin, European storm petrel, guillemot, shag	189.71	200.49
Montrose Basin SPA and Ramsar	UK9004301 GB716RIS	Non-breeding: dunlin, eider, knot, oystercatcher, redshank, shelduck, wigeon, pink-footed goose, greylag goose	199.8	110.16
Outer Firth of Forth and St Andrews Bay Complex SPA	UK9020316	Breeding: Arctic tern, common tern, gannet, guillemot, herring gull, kittiwake, Manx shearwater, puffin Non-breeding: black-headed gull, common gull, common scoter, eider, goldeneye, guillemot, herring gull, little gull, long-tailed duck, razorbill, red-breasted merganser, red-throated diver, shag, Slavonian grebe, velvet scoter	203.16	148.81
Cape Wrath SPA	UK9001231	Breeding: fulmar, kittiwake, puffin, guillemot, razorbill	206.47	211.17
Fetlar SPA	UK9002031	Breeding: fulmar, great skua, Arctic skua, Arctic tern, dunlin, red-necked phalarope, whimbrel	223.53	263.11
Firth of Tay and Eden Estuary SPA and Ramsar	UK9004121 GB1034RIS	Breeding: little tern, marsh harrier Non-breeding: bar-tailed godwit, common scoter, cormorant, dunlin, eider, goldeneye, goosander, grey plover, greylag goose, black-tailed godwit, long-tailed duck, oystercatcher, pink-footed goose, red-breasted merganser, redshank, sanderling, shelduck, velvet scoter	233.7	150.85
Firth of Forth SPA and Ramsar	UK9004411 GB1111RIS	Passage: Sandwich tern Non-breeding: 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, turnstone, velvet scoter, wigeon	236.4	160.71
Forth Islands SPA	UK9004171	Breeding: gannet, kittiwake, puffin, Arctic tern, common tern, cormorant, guillemot, herring gull, lesser black-backed gull, razorbill, roseate tern, Sandwich tern, shag	238.54	171.12
Handa SPA	UK9001241	Breeding: fulmar, great skua, kittiwake, guillemot, razorbill	244.28	251.65
Hermaness, Saxa Vord and Valla Field SPA	UK9002011	Breeding: fulmar, gannet, great skua, kittiwake, puffin, guillemot, red-throated diver	246.19	286.36
St Abbs Head to Fast Castle SPA	UK9004271	Breeding: kittiwake, guillemot, herring gull, razorbill, shag	262.64	189.67
North Rona and Sula Sgeir SPA	UK9001011	Breeding: fulmar, gannet, kittiwake, Leach's storm petrel, puffin, European storm petrel, great black-backed gull, guillemot, razorbill	267.03	284.39
Shiant Isles SPA	UK9001041	Breeding: fulmar, guillemot, kittiwake, puffin, razorbill, shag Non-breeding: barnacle goose	325.24	332.40
Flannan Isles SPA	UK9001021	Breeding: fulmar; Leach's storm petrel, guillemot, kittiwake, puffin, razorbill	368.03	382.94

Table 4.4- SPAs and Ramsar sites identified as having potential connectivity with the Proposed Development (also see Figure 4.3)				
Site Name	Site Code	Qualifying Features	Distance to the Array Area at the closest point (km)	Distance to ECC Search Area at the closest point (km)
Seas off Kilda SPA	UK9020332	Breeding: fulmar; gannet, puffin, guillemot, European storm petrel	383.04	415.81
Rum SPA	UK9001341	Breeding: Manx shearwater, golden eagle, guillemot, kittiwake, red-throated diver	432.45	444.11
St Kilda SPA	UK9001031	Breeding: fulmar; gannet; Leach's storm petrel; great skua, guillemot, kittiwake, puffin, razorbill, European storm petrel	435.26	457.33
Flamborough and Filey Coast SPA	UK9006101	Breeding: gannet, razorbill, guillemot, kittiwake	446.73	399.94
Mingulay and Berneray SPA	UK9001121	Breeding: fulmar, razorbill, puffin, shag, kittiwake, guillemot	467.87	482.20
<b>For all designated sites which are beyond the recommended foraging range of gannet (509.4 km) 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 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.</b>				
Horn Head to Fanad Head SPA	IE0004194	Breeding: fulmar	633.43	663.24
Tory Island SPA	IE0004073	Breeding: fulmar	643.9	674.15
West Donegal Coast SPA	IE0004150	Breeding: fulmar	662.22	704.54
Seevogelschutzgebiet Helgoland SPA	DE1813491	Breeding: fulmar	707.33	732.40
Inishmurray SPA	IE0004068	Breeding: fulmar	750.2	785.69
Irish Sea Front SPA	UK9020328	Breeding: Manx shearwater	821.62	844.94
Clare Island SPA	IE0004136	Breeding: fulmar	855.16	891.25
Lambay Island SPA	IE0004069	Breeding: fulmar	856.08	883.71
High Island, Inishshark and Davillaun SPA	IE0004144	Breeding: fulmar	869.98	908.28
Cruagh Island SPA	IE0004170	Breeding: Manx shearwater	880.23	917.70
Illaunnaon SPA	IE0004221	Breeding: fulmar	882.56	921.01
Wicklow Head SPA	IE0004127	Breeding: fulmar	911.14	942.95
Glannau Aberdaron ac Ynys Enlli / Aberdaron Coast and Bardsey Island SPA	UK9013121	Breeding: Manx shearwater	925.33	954.15
Inishmore	IE0004152	Breeding: fulmar	930.59	971.81
Littoral seino-marin SPA	FR2310045	Breeding: fulmar	938.23	1684.34
Cliffs of Moher SPA	IE0004005	Breeding: fulmar	966.17	1001.99
Illaunonearaun SPA	IE0004114	Breeding: fulmar	984.4	1028.22
Loop Head SPA	IE0004119	Breeding: fulmar	991.63	1030.25
Kerry Head SPA	IE0004189	Breeding: fulmar	1005.27	1046.01
Magharee Islands SPA	IE0004125	Breeding: fulmar	1013.58	1052.94
Dingle Peninsula SPA	IE0004153	Breeding: fulmar	1018.04	1065.33
Saltee Islands SPA	IE0004002	Breeding: fulmar; Manx shearwater	1019.82	1059.37
Blasket Islands SPA	IE0004008	Breeding: fulmar; Manx shearwater	1037.66	1085.37
Skomer, Skokholm and the Seas off Pembrokeshire SPA	UK9014051	Breeding: Manx shearwater	1040.82	1068.87
Iveragh Peninsula SPA	IE0004154	Breeding: fulmar	1059.33	1108.75
Puffin Island SPA	IE0004003	Breeding: fulmar; Manx shearwater	1068.39	1117.37
Falaise du Bessin Occidental SPA	FR2510099	Breeding: fulmar	1076.17	1635.70
Deenish Island and Scariff Island SPA	IE0004175	Breeding: fulmar; Manx shearwater	1088.97	1134.09

<b>Site Name</b>	<b>Site Code</b>	<b>Qualifying Features</b>	<b>Distance to the Array Area at the closest point (km)</b>	<b>Distance to ECC Search Area at the closest point (km)</b>
Helvick Head to Ballyquin SPA	IE0004192	Breeding: fulmar	1089.48	1126.86
Beara Peninsula SPA	IE0004155	Breeding: fulmar	1102.41	1150.92
Sheep's Head to Toe Head SPA	IE0004156	Breeding: fulmar	1125.73	1179.07
Old Head of Kinsale SPA	IE0004021	Breeding: fulmar	1168.42	1219.09
Galley Head to Duneen Point SPA	IE0004190	Breeding: fulmar	1193.52	1244.97





Project:  
**Buchan Offshore Wind**

Title:  
**Figure 4.3: Designated Sites Identified for Offshore and Intertidal Ornithology Screening**

**Key**

- Array Area
- Export Cable Corridor (ECC) Search Area
- Preferred Export Cable Corridor (ECC)

**Designated Sites**

- Special Protection Area (SPA)
- Ramsar

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Scale @ A3: 1:5,000,000  
 Coordinate System: WGS 84 UTM Zone 30N  
 Graticules: WGS84

Date: 18-12-23    Prepared by: JO    Checked by: HM

Map Ref: GB204095\_M\_049\_B

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#### 4.5 Annex II Migratory Fish

The following Annex II migratory fish qualifying features of European Sites are considered relevant to the HRA screening for the Proposed Development:

- Atlantic salmon (*Salmo salar*);
- Sea lamprey (*Petromyzon marinus*);
- River lamprey (*Lampetra fluviatilis*);
- Twait shad (*Alosa fallax*);
- Alis shad (*Alosa alosa*); and
- Freshwater Pearl Mussel (FWPM) (*Margaritifera margaritifera*).

Other Annex II fish species, e.g., brook lamprey, which are qualifying interests of SAC rivers have lifecycles that are completed without a marine phase and therefore such features have no potential for connectivity with the Proposed Development. Such species are therefore screened out from any further assessment on the basis that there is no potential for connectivity with the Proposed Development, and as such there is no potential for LSE to occur.

In determining connectivity of the Proposed Development with European sites, this assessment considers whether:

- There is a direct overlap of the Proposed Development with a European site designated for Annex II migratory fish features;
- The distance between the Proposed Development and a European site designated for Annex II migratory fish features is within a range for which there could be an interaction, i.e., potential migratory route; and
- The distance between the Proposed Development and resources on which the feature depends is within a range where there could be an interaction, i.e., effects on a defined foraging ground.

The movement of Atlantic salmon and post-smolts is poorly understood but it is thought that they generally use coastal and near shore waters (Moray Offshore Wind Farm (West) Limited, 2017). Furthermore, though it is recognised that FWPM are not migratory species with a marine phase, it is considered that Atlantic salmon may act as a host species during a critical parasitic phase of the FWPM lifecycle within freshwater. Therefore, the potential for indirect effects on FWPM should LSE not be ruled out for relevant Atlantic salmon populations<sup>5</sup>.

Sea lamprey is parasitic at sea and is found in both shallow and deep offshore waters (Maitland, 2003); however given their life history any potential interaction with the project is considered to be limited. River

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<sup>5</sup> As per advice received by Marine Directorate – Science, Evidence, Data and Digital (MD-SEDD) (formerly Marine Scotland Science) during pre-scoping workshop on 15<sup>th</sup> May 2023.

lamprey is restricted to estuaries of major rivers and limited to inshore coastal waters (Maitland, 2003) surrounding these estuaries.

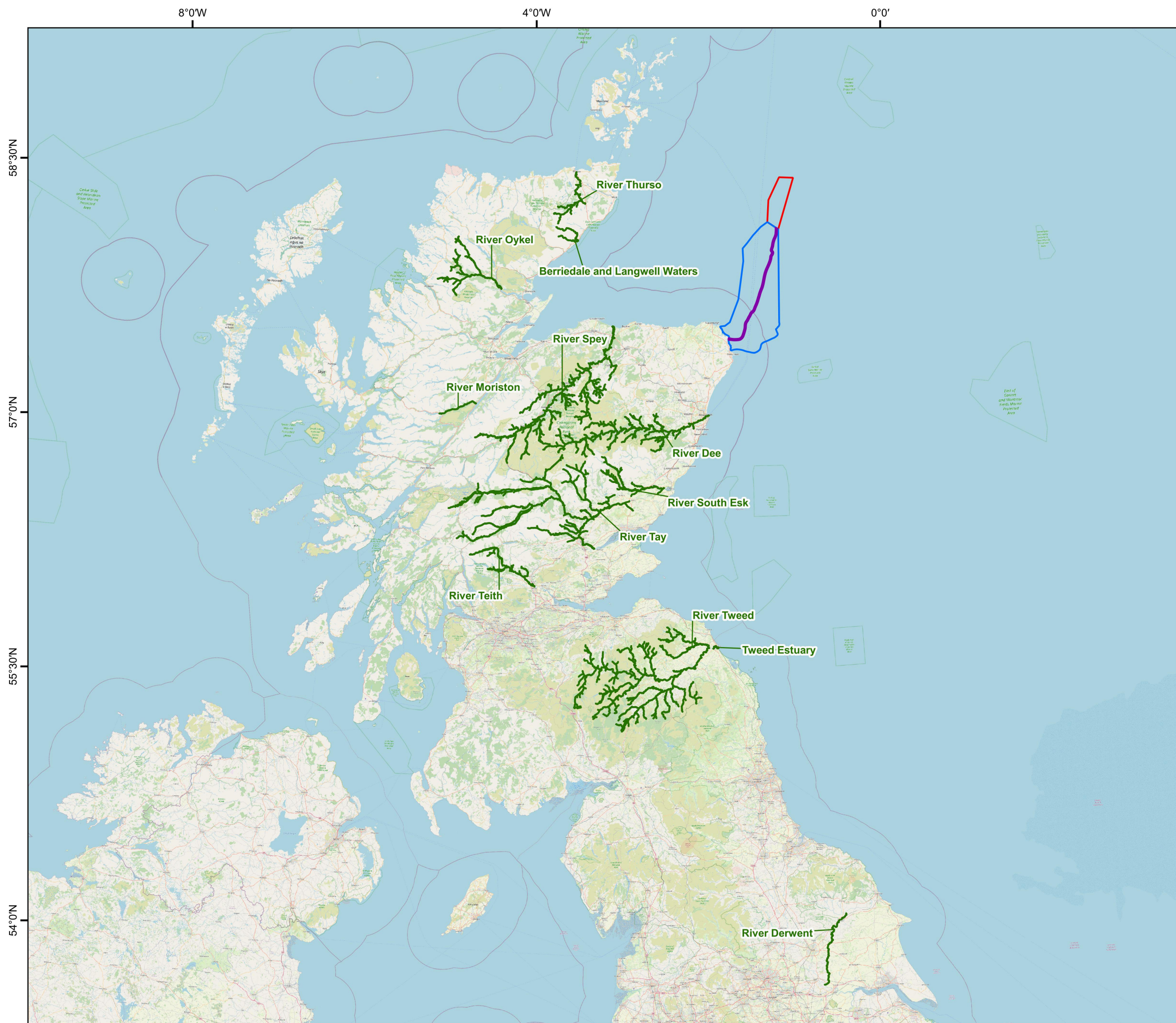
Shad species are a member of the herring (clupeid) family and spend their adult life at sea where they feed on prey fish (e.g. sprat and sandeel). There are no known at sea migration routes for Shad. These species travel up rivers to spawn in freshwater. There are no SAC rivers for Shad in the North Sea or anywhere in Scotland, with the only SAC rivers designated for either shad species being in southern Wales or south west England.

A precautionary geographical area has been considered for the site identification process in order to determine the sites for further consideration of LSE, based upon known information on migratory pathways (Malcolm *et al.*, 2010; Moray Firth Tracking Project, 2023). Based upon the known information on migration, all SAC rivers on the east coast of the UK designated for migratory Annex II fish features have been considered. It is considered that all other European sites designated for Annex II migratory fish have no potential for connectivity with the Proposed Development and no LSE could possibly arise.

This initial stage in the screening process has identified 12 European sites with Annex II migratory fish qualifying features to be taken forward for determination of the potential for LSE (Table 4.5 and Figure 4.4).

<b>Site Name</b>	<b>Site Code</b>	<b>Qualifying Features</b>	<b>Distance to the Array Area at the closest point</b>	<b>Distance to the ECC Search Area at the closest point</b>	<b>Possible connectivity to the Proposed Development</b>
River Dee SAC	UK0030251	Atlantic salmon Freshwater pearl mussel	122 km	50 km	Yes
River Spey SAC	UK0019811	Atlantic salmon Freshwater pearl mussel Sea lamprey	97 km	70 km	Yes
River South Esk SAC	UK0030262	Atlantic salmon Freshwater pearl mussel	107 km	186 km	Yes
Tweed Estuary SAC	UK0030292	River lamprey Sea lamprey	126 km	109 km	Yes
Berriedale and Langwell Waters SAC	UK0030088	Atlantic salmon	109 km	132 km	Yes
River Thurso SAC	UK0030264	Atlantic salmon	120 km	128 km	Yes
River Oykel SAC	UK0030261	Atlantic salmon Freshwater pearl mussel	181 km	147 km	Yes
River Tay SAC	UK0030312	Atlantic salmon River lamprey Sea lamprey	166 km	245 km	Yes
River Moriston SAC	UK0030259	Atlantic salmon Freshwater pearl mussel	267 km	169 km	Yes
River Tweed SAC	UK0012691	Atlantic salmon River lamprey Sea lamprey	196 km	279 km	Yes
River Teith SAC	UK0030263	River lamprey Sea lamprey Atlantic Salmon	212 km	286 km	Yes
River Derwent SAC	UK0030253	River lamprey Sea lamprey	455 km	376 km	Yes





Project:  
**Buchan Offshore Wind**

Title:  
**Figure 4.4: SACs Designated for Annex II Fish Species Considered at LSE Screening**

Key

- Array Area
- Export Cable Corridor (ECC) Search Area
- Preferred Export Cable Corridor (ECC)
- Special Area of Conservation (SAC)

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 Coordinate System: WGS 84 UTM Zone 30N  
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0 60 120 180 240 km

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## 5 HRA SCREENING

### 5.1 Annex I Habitats

#### 5.1.1 Pathways for potential effects

As there are no SACs designated for Annex I habitats with connectivity to the Proposed Development, there is no pathway for effect, and all SACs designated for Annex I habitats are screened out from further assessment.

### 5.2 Annex II Marine Mammals

#### 5.2.1 Impact Pathways

Potential impact pathways, and the phases during which there may be likely significant effects, have been detailed in Table 5.1, and expanded upon below.

Impact pathway	Phase during which there is potential for effect		
	Construction	O&M	Decommissioning
Increased underwater noise – pile driving	✓	✗	✗
Increased underwater noise – other construction activities e.g., seabed preparation, cable lay, trenching	✓	✗	✓
Increased underwater noise – UXO clearance work	✓	✗	✗
Increased underwater noise – survey	✓	✓	✓
Increased underwater noise – vessels	✓	✓	✓
Collision risk (vessels)	✓	✓	✓
Accidental pollution events	✓	✓	✓
Increased underwater noise – operation (WTGs and moorings)	✗	✓	✗
Entanglement risk – primary	✓	✓	✗
Entanglement risk – secondary	✓	✓	✗
Indirect effects such as changes in available habitat and prey availability	✓	✓	✗
Presence of electromagnetic fields (EMF)	✗	✓	✗

#### 5.2.2 Description of Impacts

##### 5.2.2.1 Increased underwater noise – pile driving

Impact piling during the construction phase may result in auditory injury (Permanent Threshold Shift (PTS)) and/or behavioural disturbance or displacement of marine mammals as a consequence of increased subsea noise levels.



Accordingly, where connectivity with a European site cannot be ruled out and a pathway to impact exists, LSE cannot be ruled out on qualifying features in line with that described above. As such, LSE cannot be ruled out on sites with potential connectivity as a result of increased underwater noise from pile driving.

#### 5.2.2.2 Increased underwater noise – other construction activities e.g., seabed preparation, cable lay, trenching

Increased subsea noise associated with other construction activities (e.g. seabed preparation, cable lay, rock placement, etc.) is non-impulsive and has no potential to lead to PTS or Temporary Threshold Shift (TTS) in marine mammals. Any increases in underwater noise from other construction activities at a level which may lead to a disturbance response in marine mammals will be restricted to the immediate vicinity of the work and thus it is considered highly unlikely that this impact pathway will lead to any disturbance effects.

As such, there is no potential for LSE to arise on any marine mammal species which is a designated feature of an SAC from increased subsea noise from other construction activities.

#### 5.2.2.3 Increased underwater noise – UXO clearance work

Unexploded Ordnance (UXO) clearance, if required during the construction phase, may result in auditory injury (PTS) and/or behavioural disturbance or displacement of marine mammals as a consequence of increased subsea noise levels.

Accordingly, where connectivity with a European site cannot be ruled out and a pathway to impact exists, LSE cannot be ruled out on qualifying features in line with that described above. As such, LSE cannot be ruled out on sites with potential connectivity as a result of increased underwater noise from UXO clearance.

#### 5.2.2.4 Increased underwater noise – survey

Survey operations (e.g., geophysical or geotechnical surveys) may result in auditory injury (PTS) and/or behavioural disturbance or displacement of marine mammals as a consequence of increased subsea noise levels.

Accordingly, where connectivity with a European site cannot be ruled out and a pathway to impact exists, LSE cannot be ruled out on qualifying features in line with that described above. As such, LSE cannot be ruled out on sites with potential connectivity as a result of increased underwater noise from survey work.

#### 5.2.2.5 Increased underwater noise – vessels

Increased subsea noise associated with vessel activities is non-impulsive and has no potential to lead to PTS or TTS in marine mammals. Any increases in underwater noise from vessel activity at a level which may lead to a disturbance response in marine mammals, will be restricted to the immediate vicinity of the work. As such, there is no potential for LSE to arise on any marine mammal species which is a designated feature of an SAC from increased subsea noise from vessels.

#### 5.2.2.6 Increased underwater noise – operation (WTGs and moorings)

The intensity of noise generated during the operational phase is considered to be much lower than that generated during construction (Tougaard *et al.*, 2008). Marine mammals are not considered to be

adversely affected by the noise from operational turbines (e.g., Brookes *et al.*, 2017), and marine mammal activity within operational OWF has been seen to equal or be above that observed pre-construction (e.g., Teilmann *et al.*, 2006; Brasseur *et al.*, 2012)

However, it is considered that an additional source of noise could be generated by the mooring lines used to anchor the floating turbines. It is therefore considered, taking a precautionary approach, that LSE cannot be ruled out for operational noise where connectivity with a European site exists.

#### 5.2.2.7 Collision risk (vessels)

Increased vessel activity in comparison to baseline levels may result in increased potential for vessel collisions with marine mammals. However, small cetaceans such as bottlenose dolphin and harbour porpoise and seals are agile and not considered as susceptible to collision as the large whale species (Schoeman *et al.*, 2020). Vessels used in the construction and operation of a wind farm are typically large and slow moving during construction (and decommissioning) and follow defined routes to and from the site during construction and operation.

As such, there is no potential for LSE to arise on any marine mammal species which is a designated feature of an SAC from collision risk.

#### 5.2.2.8 Accidental pollution events

Risk of pollution incidents arising will be managed through measures committed to in the Marine Pollution Contingency Plan (MPCP) or equivalent, which will be prepared in accordance with relevant legislation in place at the time, such as the International Maritime Organisation (IMO) International Convention for the Prevention of Pollution from Ships (MARPOL) guidelines. This will reduce the risk of pollution events occurring to a level that can be considered as low as reasonably practicable.

As the nearest European site designated for marine mammal species is c. 100 km from the Proposed Development, and the range of tidal dispersal is predicted to be within 15 – 25 km, there is considered no potential for the Proposed Development to affect any European site designated for marine mammals.

As such LSE arising from this effect can be ruled out.

#### 5.2.2.9 Entanglement risk – primary

The mooring lines that are proposed to be utilised for floating foundations are large in diameter and will be under a degree of tension once installed and connected to the floating structures. During the installation phase they will be under a lesser degree of tension but secured in such a manner (anticipated to be buoyed or laid upon the sea bed) that there is not considered any additional risk of entanglement for marine mammals. As such, LSE arising from this impact can be ruled out.

#### 5.2.2.10 Entanglement risk – secondary

Secondary entanglement (i.e., within lost fishing gear) is only likely to occur within the footprint of the Array Area where any such lost gear could potentially become caught in mooring lines or dynamic cables. Although the likelihood of lost gear being a. present, and b. entangled within Proposed Development and able to entangle marine mammals is considered low to negligible, as this impact cannot, at this time, be

fully ruled out, it is considered that LSE cannot be ruled out and this impact is screened in for further assessment where connectivity to designated sites exists.

#### 5.2.2.11 Indirect effects such as changes in available habitat and prey availability

Changes in marine mammal prey abundance and distribution could occur due to the construction and operation of the proposed development that disturb the seabed (and cause increased SSCs) or increase subsea noise levels. As such, marine mammal foraging may be affected, however the extent of any impact on prey are predicted to be relatively small scale and temporary.

Marine mammals are highly mobile and are able to forage over very large distances. No SACs with connectivity to the project are closer than 100 km, and as such it is considered that any impact on prey abundance and distribution will not lead to LSE on marine mammal species.

As such, there is no potential for LSE on any Annex II marine mammal qualifying interest features of any site with potential for connectivity as a result of indirect effects.

#### 5.2.2.12 Presence of electromagnetic fields (EMF)

It is considered that some cetacean species may be sensitive to and/or able to detect magnetic fields such as those emitted from subsea cables (Normandeau, 2011; Czech-Damal et al., 2012; Hüttner et al., 2022). Magnetic fields that may arise from OWFs are however typically considered to be very low in intensity, and are only detectable within a few meters of the cable.

It is recognised that cables for floating arrays are, for a certain parts of the cable length, located within the water column. As such the interaction marine mammals could potentially have with cables for floating projects may differ from that of traditional fixed foundation projects.

It is therefore considered that although EMF arising from the Proposed Development will likely have a negligible-nil impact on marine mammals, LSE cannot be ruled out and it is therefore screened in for further assessment.

### 5.2.3 Determination of LSE

Table 5.2 sets out the determination of LSE for all European sites where connectivity is considered possible.

Table 5.2– Potential for LSE on European sites with marine mammal qualifying features			
Site Name	Qualifying Feature	Assessment of LSE	Screened In / Out
Moray Firth	Bottlenose dolphin ( <i>Tursiops truncatus</i> )	Given the potential for connectivity between designated site and the Proposed Development, and the existence of a route to impact, potential effects cannot be discounted at this stage.	In
Southern North Sea	Harbour porpoise ( <i>Phocoena phocaena</i> )	It is therefore considered that LSE cannot be ruled out, and this SAC and will be taken forward to the next stage of assessment.	
Doggersbank			
Klaverbank			
Noordzeekustzone			
Waddenzee			
Voordelta			
Vlakte van de Raan		LSE could not be ruled out for the for the following impact pathways: <ul style="list-style-type: none"> <li>• Increased underwater noise (piling);</li> <li>• Increased underwater noise (UXO clearance work);</li> </ul>	

Table 5.2– Potential for LSE on European sites with marine mammal qualifying features			
Site Name	Qualifying Feature	Assessment of LSE	Screened In / Out
Westerschelde & Saeftinghe		<ul style="list-style-type: none"> <li>• Increased underwater noise (survey);</li> <li>• Increased underwater noise (operation – WTGs and moorings);</li> <li>• Secondary entanglement; and</li> <li>• EMF.</li> </ul> <p>For all other impact pathways, LSE was ruled out.</p>	
Doggerbank			
Sylter Außenriff			
SPA Östliche Deutsche Bucht			
Borkum-Riffgrund			
NTP S-H Wattenmeer und angrenzende Küstengebiete			
Nationalpark Niedersächsisches Wattenmeer			
Helgoland mit Helgoländer Felssockel			
Steingrund			
Untereibe			
Unterweser			
Gule Rev			
Sydligte Nordsø			
Store Rev			
Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde			
Skagens Gren og Skagerak			
Kosterfjorden-Väderöfjorden			
Vlaamse Banken			
Vlakte van de Raan			
Bancs des Flandres			
Récifs Gris-Nez Blanc-Nez			
Ridens et dunes hydrauliques du détroit du Pas-de-Calais			
Falaises du Cran aux œufs et du Cap Gris-Nez, Dunes du Chatelet, Marais de Tardinghen et Dunes de Wissant			
Baie de Canche et couloir des trois estuaires			
Baie de Seine orientale			
Baie de Seine occidentale			

## 5.3 Offshore and Intertidal Ornithology (Annex I Birds)

### 5.3.1 Impact Pathways

With respect to offshore and intertidal ornithology the potential impacts considered which may result in LSE are:

- Collision risk. This is the collision of birds in flight with rotating WTG blades;
- Disturbance and displacement. This is the distributional response of birds that would otherwise use an area for activities such as foraging or resting;
- Barrier effects. This is another distributional response which results in birds flying around an array area due to the presence of WTGs;
- Changes to prey. This is another distributional response resulting from changes in prey distribution or abundance;
- Accidental pollution. This is the release of contaminant, pollutants or sediment; and
- Entanglement. This is the entanglement of birds in fishing gear that may be caught on floating structures.

Potential activities and resulting impacts considered for the ornithological receptors are provided in Table 5.3. The scope of works for the decommissioning phase is currently unknown; however, activities and impacts are expected to be similar to those during construction.

Impact pathway	Phase during which there is potential for effect		
	Construction	O&M	Decommissioning
Collision with rotating WTG blades.	x	✓	x
Disturbance and displacement arising from wet storage of assembled floating turbines.	✓	✓	✓
Disturbance and displacement arising from structure installation or removal (fixed and floating foundations) including moorings and anchors.	✓	x	✓
Disturbance and displacement arising from seabed preparation, potential dredging and sandwave clearance, and sediment deposit.	✓	x	x
Disturbance and displacement arising from vessel activity.	✓	✓	✓
Disturbance and displacement arising from installation / removal of cables (Array Area and export including landfall works), scour or cable protection.	✓	x	✓
Disturbance and displacement arising from UXO detonation/clearance.	✓	x	x
Disturbance and displacement arising from presence of the operating WTGs (including associated lighting).	x	✓	x
Changes to prey availability arising from activities that generate underwater noise and/or increased suspended sediment levels.	✓	x	✓
Changes to prey availability arising from UXO detonation/clearance.	✓	x	x
Changes to prey availability arising from vessel activity.	✓	✓	✓
Changes to prey availability arising from seabed preparation, potential dredging and sandwave clearance, and sediment deposit.	✓	x	x

Impact pathway	Phase during which there is potential for effect		
	Construction	O&M	Decommissioning
Changes to prey availability arising from loss of supporting habitats due to presence of installed structures.	x	✓	x
Changes to prey availability arising from EMF.	x	✓	x
Release of contaminants or pollutants.	✓	✓	✓
Entanglement of diving pursuit foragers with ghost netting fouling floating structures.	x	✓	x

The assessment of LSE in Table 5.4 makes reference to each species’ sensitivity to disturbance, displacement and collision. Species sensitivity to barrier effects utilises the scores for displacement as a proxy.

### 5.3.2 Description of Impacts

#### 5.3.2.1 Collision Risk

Assessment of sensitivity to collision risk for seabird species is considered through reference to the classifications provided by Bradbury et al. (2014). From this, collision impacts are screened in for species with a classification of at least moderate, as defined by Bradbury et al. (2014). For migratory species, all species are assessed as being potentially sensitive to collision risk (WWT, 2014).

#### 5.3.2.2 Disturbance and Displacement

Assessment of sensitivity to disturbance and displacement is considered through reference to the Joint Statutory Nature Conservation Body (SNCB) guidance (SNCB, 2022), which derives disturbance/displacement sensitivity and habitat specialisation indices (provided in Table 5.4) from on a number of behavioural factors per Bradbury *et al.*, (2014). SNCB (2022) advice is that disturbance/displacement should be considered in assessments for species with a value of 3 or higher for either of these indices. Additional SNCB (2022) advice is that gannet should also be considered in this assessment. From this, displacement and disturbance is screened out for great black-backed gull, lesser black-backed gull, great skua, and fulmar. The decision has been taken to not screen out displacement and disturbance based on Table 5.4 for the following species: for kittiwake given guidance from NatureScot (2023b) to be assessed for disturbance and displacement; and for Manx shearwater, European storm petrel and Leach’s storm petrel based on a review of recent scoping advice by NatureScot (e.g. Marine Scotland, 2023). The assessments for Manx shearwater, European storm petrel and Leach’s storm petrel will also include consideration of impacts and likely significant effects of lighting.

Barrier effects are considered for seabird species for which the Proposed Development Array Area is within the foraging range as there is potential for these species to regularly pass through the area; but are screened out for species that may pass through the Array Area during migration only, as these species would only be open to the potential of barrier effects up to twice a year.

Post-screening, impacts from collision and disturbance/displacement will be estimated quantitatively using methods described in the Buchan Offshore Scoping Report ([Buchan Offshore Wind, 2023](#)). These will then be apportioned to relevant SPAs using the Marine Scotland Directorate (MSD) apportioning tool (SNH, 2018) for breeding season impact (and for non-breeding season impacts on guillemot), and by using

the Biologically Defined Minimum Population Scales (BDMPS) report (Furness, 2015) for non-breeding season impacts.

### 5.3.2.3 Impacts to Prey Species

Impacts to prey species are screened in for species that may use the Array Area or the ECC Search Area for foraging, based on overlap with the European site in question or the foraging distances as recommended by NatureScot (2023a).

### 5.3.2.4 Entanglement Risk

Risk of secondary entanglement (i.e. entanglement in lost fishing gear) is screened into the assessment for diving pursuit foragers, i.e. puffin, guillemot and razorbill, based on a review of recent scoping advice by NatureScot and a review by Benjamins *et al.* (2014).

### 5.3.2.5 Pollution Events

For all species, potential impacts arising from accidental pollution are screened out as the risk of pollution incidents arising will be managed through compliance with relevant legislation in place at the time, such as the IMO MARPOL guidelines, and will be secured through the MCPC or equivalent. This will reduce the risk of pollution events occurring to a level that can be considered as low as reasonably practicable, and will not result in LSE.

Species	Sensitivity index to disturbance/displacement (SNCB, 2022)*	Habitat specialisation index (SNCB, 2022)*	Sensitivity to collision (Bradbury <i>et al.</i> , 2014)
Arctic skua	1	2	Moderate
Arctic tern	2	3	Low
Common tern <sup>†</sup>	2	3	Moderate
Cormorant	4	3	Low
European storm petrel	1	1	Low
Fulmar	1	1	Very low
Gannet	2	1	High
Goldeneye	4	4	Low
Great black-backed gull	2	2	Very high
Great skua	1	2	Moderate
Guillemot	<b>3</b>	3	Very low
Herring gull	2	1	Very high
Kittiwake	2	2	High
Leach's storm petrel	1	1	Low
Lesser black-backed gull	2	1	Very high
Manx shearwater	1	1	Very low
Puffin	2	3	Very low
Razorbill	3	3	Very low
Red-breasted merganser	3	4	Low
Red-throated diver	<b>5</b>	4	Moderate

<b>Species</b>	<b>Sensitivity index to disturbance/displacement (SNCB, 2022)*</b>	<b>Habitat specialisation index (SNCB, 2022)*</b>	<b>Sensitivity to collision (Bradbury <i>et al.</i>, 2014)</b>
Roseate tern	2	3	Moderate
Sandwich tern	2	3	Moderate
Shag	3	3	Moderate

\* These indices use a scale from 1 to 5, with 5 giving the highest sensitivity.

+ Indices are not available for common tern, so values used are proxies from two very similar species, Arctic tern and roseate tern.



**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Loch of Strathbeg SPA and Ramsar	76.7	0.00	Sandwich tern	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Impacts to prey species	Disturbance and displacement Impacts to prey species	The Array Area is outwith the recommended foraging range of this species. The ECC Search Area is within the recommended foraging range of this species.	LSE cannot be ruled out for disturbance and displacement, and impacts to prey species, on basis of connectivity with the ECC Search Area and sensitivity of this species.  LSE is ruled out for all other impacts.
Loch of Strathbeg SPA and Ramsar	76.7	0.00	Greylag goose Pink-footed goose Barnacle goose Whooper swan	Non-breeding	Disturbance and displacement	Collision  Disturbance and displacement	Disturbance and displacement	The Array Area lies within the migration route of these species.  These species are considered sensitive to disturbance from anthropogenic activities.  These species are not considered sensitive to changes to prey.	LSE cannot be ruled out for collision, disturbance and displacement on basis of connectivity with the Proposed Development and sensitivity of these species.  LSE is ruled out for all other impacts.
Loch of Strathbeg SPA and Ramsar	76.7	0.00	Teal Goldeneye	Non-breeding	Disturbance and displacement	Disturbance and displacement	Disturbance and displacement	These species are considered sensitive to disturbance from anthropogenic activities.  These species are not considered sensitive to changes to prey.	LSE cannot be ruled out for disturbance and displacement on basis of connectivity and sensitivity of these species.  LSE is ruled out for all other impacts.
Troup, Pennan and Lion's Heads SPA	82.05	24.49	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Troup, Pennan and Lion's Heads SPA	82.05	24.49	Guillemot Razorbill	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species  Entanglement	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  These species are considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  These species are considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  These species are considered sensitive to changes to prey and entanglement.	There is no LSE identified for collision, based on lack of sensitivity of these species.  LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey species on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Troup, Pennan and Lion's Heads SPA	82.05	24.49	Herring gull	Breeding	Impacts to prey species	Collision  Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for disturbance, displacement or barrier effects, on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for collision, and impacts to prey species, on the basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Troup, Pennan and Lion's Heads SPA	82.05	24.49	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision  Disturbance and displacement	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts on prey, based on connectivity with the Proposed Development and sensitivity of this species.

Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology									
Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
						Barrier effects Impacts to prey species		<p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	LSE is ruled out for all other impacts.
Buchan Ness to Collieston Coast SPA	89.43	8.65	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Buchan Ness to Collieston Coast SPA	89.43	8.65	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey effects</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Buchan Ness to Collieston Coast SPA	89.43	8.65	Guillemot	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species are considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Buchan Ness to Collieston Coast SPA	89.43	8.65	Herring gull Shag	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area is outwith the recommended foraging range for these species.</p> <p>The ECC Search Area is within the recommended foraging range for these species.</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p>	<p>LSE cannot be ruled out for impacts on prey on basis of connectivity the Proposed Development and sensitivity of these species.</p> <p>LSE is ruled out for all other impacts.</p>
Copinsay SPA	90.06	99.34	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								<p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Copinsay SPA	90.06	99.34	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision and disturbance displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts on prey, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Copinsay SPA	90.06	99.34	Guillemot	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on insensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts on prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Copinsay SPA	90.06	99.34	Great black-backed gull	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range for this species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity with the Proposed Development .</p>
Auskerry SPA	94.22	111.17	European storm petrel	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>NatureScot considers this species should be assessed for disturbance and displacement effects.</p> <p>This species is considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of insensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Auskerry SPA	94.22	111.17	Arctic tern	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range for this species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
Scapa Flow SPA	97.4	102.49	Red-throated diver	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range for this species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
Scapa Flow SPA	97.4	102.49	Black-throated diver Eider Great northern diver Long-tailed duck Red-breasted merganser Shag Slavonian grebe	Non-breeding	-	Collision	-	<p>Species may pass through the Array Area during annual migration.</p>	<p>LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.</p> <p>LSE is ruled out for all other impacts.</p>
Moray Firth SPA	98.4	49.31	Shag	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range for this species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
Moray Firth SPA	98.4	49.31	Common scoter Eider Goldeneye Great northern diver Long-tailed duck Red-breasted merganser Red-throated diver	Non-breeding	-	Collision	-	<p>Species may pass through the Array Area during annual migration.</p>	<p>LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
			Scaup Shag Slavonian grebe Velvet scoter						
North Caithness Cliffs SPA	98.60	103.71	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of insensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
North Caithness Cliffs SPA	98.60	103.71	Kittiwake	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to preys.</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and Impacts to prey species, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
North Caithness Cliffs SPA	98.60	103.71	Puffin Razorbill	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species  Entanglement	Disturbance and displacement  Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>These species are not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>These species are considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>These species are considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on insensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts on prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
North Caithness Cliffs SPA	98.60	103.71	Guillemot Peregrine	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
East Caithness Cliffs SPA	99.04	94.01	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
East Caithness Cliffs SPA	99.04	94.01	Kittiwake	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects	Disturbance and displacement  Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and Impacts to prey species, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
						Impacts to prey species		<p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	
East Caithness Cliffs SPA	99.04	94.01	Guillemot Razorbill	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species  Entanglement	Disturbance and displacement  Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>These species are not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>These species are considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>These species are considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on lack of sensitivity of these species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey species on basis of connectivity with the Proposed Development and sensitivity of these species.</p> <p>LSE is ruled out for all other impacts.</p>
East Caithness Cliffs SPA	99.04	94.01	Shag Cormorant Great black-backed gull Herring gull Peregrine	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.</p>
Fair Isle SPA	106.39	140.80	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Fair Isle SPA	106.39	140.80	Great skua	Breeding	Impacts to prey species	Collision  Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for disturbance and displacement, entanglement or barrier effects, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for collision and impacts on prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Fair Isle SPA	106.39	140.80	Gannet Kittiwake	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of these species (Woodward <i>et al.</i>, 2019).</p> <p>These species are considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>These species are not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of these species.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								These species are considered sensitive to changes to prey.	
Fair Isle SPA	106.39	140.80	Puffin Razorbill Guillemot	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species  Entanglement	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of these species (Woodward <i>et al.</i> , 2019).  These species are not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  These species are considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  These species are considered sensitive Impacts to prey species and entanglement.	There is no LSE identified for collision, based on lack of sensitivity of these species.  LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of these species.  LSE is ruled out for all other impacts.
Fair Isle SPA	106.39	140.80	Arctic skua Arctic tern Shag Fair Isle wren	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.
Hoy SPA	117.25	124.99	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Hoy SPA	117.25	124.99	Great skua	Breeding	Impacts to prey species	Collision  Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for disturbance and displacement, entanglement or barrier effects, on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for collision and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Hoy SPA	117.25	124.99	Kittiwake	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Hoy SPA	117.25	124.99	Guillemot	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).	There is no LSE identified for collision, based on lack of sensitivity of this species.  LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and



Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
						Entanglement		<p>This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to Impacts to prey species and entanglement.</p>	<p>impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Hoy SPA	117.25	124.99	Puffin	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Hoy SPA	117.25	124.99	Arctic skua Great black-backed gull Peregrine Red-throated diver	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
Calf of Eday SPA	118.48	135.31	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Calf of Eday SPA	118.48	135.31	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Calf of Eday SPA	118.48	135.31	Guillemot	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey and entanglement.</p>	<p>There is no potential for LSE identified for collision, based on lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Calf of Eday SPA	118.48	135.31	Great black-backed gull Cormorant	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.
Ythan Estuary and Meikle Loch SPA and Ramsar	122.2	28.92	Sandwich tern	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Impacts to prey species	Disturbance and displacement Impacts to prey species	The Array Area is outwith the recommended foraging range of this species.  The ECC Search Area is within the recommended foraging range of this species.	LSE cannot be ruled out for disturbance and displacement, and impacts to prey species, on basis of connectivity with the ECC Search Area and sensitivity of this species.  LSE is ruled out for all other impacts.
Ythan Estuary and Meikle Loch SPA and Ramsar	122.2	28.92	Common tern Little tern	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.
Ythan Estuary and Meikle Loch SPA and Ramsar	122.2	28.92	Pink-footed goose Lapwing Redshank Eider	Non-breeding	-	Collision	-	Species may pass through the Array Area during annual migration.	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.  LSE is ruled out for all other impacts.
Moray and Nairn Coast Ramsar	122.7	110.80	Greylag goose Long-tailed duck	Non-breeding	-	Collision	-	Species may pass through the Array Area during annual migration. ECC Search Area	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.  LSE is ruled out for all other impacts.
Rousay SPA	124.25	137.45	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Rousay SPA	124.25	137.45	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for disturbance and displacement from vessel-based activities, based on the lack of sensitivity of this species.  LSE cannot be ruled out for collision, disturbance and displacement from offshore wind farm infrastructure, barrier effects and impacts to prey, based on connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Rousay SPA	124.25	137.45	Guillemot	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is considered to be sensitive to disturbance from vessel activity and disturbance, and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey and entanglement.	There is no LSE identified for collision, based on insensitivity of this species.  LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Rousay SPA	124.25	137.45	Arctic tern Arctic skua	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any impact on basis of no connectivity.
West Westray SPA	129.97	148.35	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.



**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								<p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
West Westray SPA	129.97	148.35	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for disturbance and displacement from vessel-based activities, based on the lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for collision, disturbance and displacement from offshore wind farm infrastructure, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
West Westray SPA	129.97	148.35	Guillemot Razorbill	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of these species (Woodward <i>et al.</i>, 2019).</p> <p>These species are not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>These species are not considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>These species are considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on insensitivity of these species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, accidental pollution, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of these species.</p> <p>LSE is ruled out for all other impacts.</p>
West Westray SPA	129.97	148.35	Arctic tern Arctic skua	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any impact on basis of no connectivity.</p>
Papa Westray (North Hill and Holm) SPA	139.0	150.90	Arctic tern Arctic skua	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any impact on basis of no connectivity.</p>
Sumburgh Head SPA	143.09	174.41	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Sumburgh Head SPA	143.09	174.41	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								This species is considered sensitive to changes to prey.	
Sumburgh Head SPA	143.09	174.41	Arctic tern Guillemot	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.
Seas off Foula SPA	147.14	190.53	Great skua	Breeding Non-breeding	Impacts to prey species	Collision  Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for disturbance and displacement, entanglement or barrier effects, on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for collision, and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Seas off Foula SPA	147.14	090.53	Fulmar	Breeding Non-breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Seas off Foula SPA	147.14	190.53	Puffin	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species  Entanglement	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey and entanglement.	There is no LSE identified for collision, based on insensitivity of this species.  LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity a with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Seas off Foula SPA	147.14	190.53	Arctic skua	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of this species.	There is no LSE identified for any effect on basis of no connectivity.
Seas off Foula SPA	147.14	190.53	Guillemot	Breeding Non-breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of this species.	There is no LSE identified for any effect on basis of no connectivity.
Marwick Head SPA	153.22	156.11	Kittiwake	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and Impacts to prey species, based on connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Marwick Head SPA	153.22	156.11	Guillemot	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of this species.	There is no LSE identified for any effect on basis of no connectivity.
Fowlsheugh SPA	154.63	78.25	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								<p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts</p>
Fowlsheugh SPA	154.63	78.25	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and Impacts to prey, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Fowlsheugh SPA	154.63	78.25	Guillemot Razorbill	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of these species (Woodward <i>et al.</i>, 2019).</p> <p>These species are not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>These species are considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>These species are considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on lack of sensitivity of these species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of these species.</p> <p>LSE is ruled out for all other impacts.</p>
Fowlsheugh SPA	154.63	78.25	Herring gull	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of this species.	There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.
Dornoch Firth and Loch Fleet SPA and Ramsar	159.5	123.11	Osprey	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of this species.	There is no LSE identified for any effect on basis of no connectivity.
Dornoch and Loch Fleet SPA and Ramsar	159.5	123.11	Greylag goose Bar-tailed godwit Wigeon Curlew Dunlin Oystercatcher Redshank Scaup Teal	Non-breeding	-	Collision	-	Species may pass through the Array Area during annual migration.	<p>LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.</p> <p>LSE is ruled out for all other impacts.</p>
Inner Moray Firth SPA and Ramsar	171.7	134.28	Common tern Osprey	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.
Inner Moray Firth SPA and Ramsar	171.7	134.28	Bar-tailed godwit Cormorant Curlew Goldeneye Goosander Greylag goose Oystercatcher Red-breasted merganser Redshank Scaup Teal Wigeon	Non-breeding	-	Collision	-	Species may pass through the Array Area during annual migration.	<p>LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.</p> <p>LSE is ruled out for all other impacts.</p>
Cromarty Firth SPA and Ramsar	172.9	134.38	Common tern Osprey	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.

Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology									
Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Cromarty Firth SPA and Ramsar	172.9	134.38	Bar-tailed godwit Curlew Dunlin Greylag goose Knot Oystercatcher Pintail Red-breasted merganser Redshank Scaup Whooper swan Wigeon	Non-breeding	-	Collision	-	Species may pass through the Array Area during annual migration.  LSE is ruled out for all other impacts.	
Noss SPA	174.8	212.21	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.	
Noss SPA	174.8	212.21	Great skua	Breeding	Impacts to prey species	Collision Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.  LSE cannot be ruled out for collision, and impacts to prey on the basis of connectivity and sensitivity of this species.  LSE is ruled out for all other impacts	
Noss SPA	174.8	212.21	Gannet Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	The Array Area and ECC Search Area are within foraging range of these species (Woodward <i>et al.</i> , 2019).  These species are considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  These species are not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  These species are considered sensitive to changes to prey.  LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of these species.  LSE is ruled out for all other impacts.	
Noss SPA	174.8	212.21	Guillemot Puffin	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	The Array Area and ECC Search Area are within foraging range of these species (Woodward <i>et al.</i> , 2019).  These species are not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  These species are considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  These species are considered sensitive to changes to prey and entanglement.  LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of these species.  LSE is ruled out for all other impacts.	

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Mousa SPA	177.0	195.31	European storm petrel	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE from disturbance and displacement during construction and decommissioning phases.</p> <p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Mousa SPA	177.0	195.31	Arctic tern	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of this species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
Foula SPA	177.38	217.74	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Foula SPA	177.38	217.74	Great skua	Breeding	Impacts to prey species	Collision Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for disturbance and displacement, entanglement or barrier effects, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for collision and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Foula SPA	177.38	217.74	Leach's storm petrel	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE from disturbance and displacement during construction and decommissioning phases.</p> <p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Foula SPA	177.38	217.74	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Foula SPA	177.38	217.74	Puffin	Breeding	Disturbance and displacement	Disturbance and displacement	Disturbance and displacement	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p>	<p>There is no LSE identified for collision, based on lack of sensitivity of this species.</p>

Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology									
Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
					Impacts to prey species	Barrier effects Impacts to prey species Entanglement	Impacts to prey species	<p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey and entanglement.</p>	<p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Foula SPA	177.38	217.74	Arctic skua Arctic tern Guillemot Razorbill Red-throated diver Shag	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
Sule Skerry and Sule Stack SPA	189.71	200.49	Gannet	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Sule Skerry and Sule Stack SPA	189.71	200.49	Puffin	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Sule Skerry and Sule Stack SPA	189.71	200.49	Leach's storm petrel European storm petrel	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of these species (Woodward <i>et al.</i>, 2019).</p> <p>These species are not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for these species.</p> <p>These species are considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from disturbance and displacement during construction and decommissioning phases.</p> <p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of these species.</p> <p>LSE is ruled out for all other impacts.</p>
Sule Skerry and Sule Stack SPA	189.71	200.49	Guillemot Shag	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no for LSE identified for any effect on basis of no connectivity.</p>
Montrose Basin SPA and Ramsar	199.8	110.16	Pink-footed goose Greylag goose Dunlin Eider Knot Oystercatcher Redshank	Non-breeding	-	Collision	-	<p>Species may pass through the Array Area during annual migration.</p>	<p>LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.</p> <p>LSE is ruled out for all other impacts.</p>



**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
			Shelduck Wigeon						
Outer Firth of Forth and St Andrews Bay Complex SPA	203.16	148.81	Gannet Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	The Array Area and ECC Search Area are within foraging range of these species (Woodward et al., 2019).  These species are considered sensitive to collision risk (Bradbury et al., 2014).  These species are not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury et al., 2014).  These species are considered sensitive to changes to prey.	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of these species.  LSE is ruled out for all other impacts.
Outer Firth of Forth and St Andrews Bay Complex SPA	203.16	148.81	Manx shearwater	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward et al., 2019).  This species is not considered to be sensitive to collision risk (Bradbury et al., 2014).  Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.  This species is considered sensitive to changes to prey but not entanglement.	There is no LSE from disturbance and displacement during construction and decommissioning phases.  There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Outer Firth of Forth and St Andrews Bay Complex SPA	203.16	148.81	Puffin	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward et al., 2019).  This species is not considered sensitive to collision risk (Bradbury et al., 2014).  This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury et al., 2014).  This species is considered sensitive to changes to prey and entanglement.	There is no LSE identified for collision, based on insensitivity of this species.  LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Outer Firth of Forth and St Andrews Bay Complex SPA	203.16	148.81	Arctic tern Common tern Guillemot Herring gull	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.
Outer Firth of Forth and St Andrews Bay Complex SPA	203.16	148.81	Black-headed gull Common gull Common scoter Eider Goldeneye Herring gull Kittiwake Little gull Long-tailed duck Red-breasted merganser Red-throated diver Shag Slavonian grebe Velvet scoter	Non-breeding	-	Collision	-	Species may pass through the Array Area during annual migration.	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.  LSE is ruled out for all other impacts.
Outer Firth of Forth and St Andrews Bay Complex SPA	203.16	148.81	Guillemot Razorbill	Non-breeding	-	-	-	Species may pass through the Array Area during annual migration, but these species are not sensitive to collision risk (Bradbury et al., 2014).	There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Cape Wrath SPA	206.47	211.17	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Cape Wrath SPA	206.47	211.17	Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision and displacement Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Cape Wrath SPA	206.47	211.17	Puffin	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species Entanglement	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Cape Wrath SPA	206.47	211.17	Guillemot Razorbill	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
Fetlar SPA	223.53	263.11	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Fetlar SPA	223.53	263.11	Great skua	Breeding	Impacts to prey species	Collision Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p>	<p>There is no LSE identified for disturbance and displacement, entanglement or barrier effects, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for collision and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								This species is considered sensitive to changes to prey.	
Fetlar SPA	223.53	263.11	Arctic skua Arctic tern Dunlin Red-necked phalarope Whimbrel	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.
Firth of Forth SPA and Ramsar	232.9	160.71	Sandwich tern	Passage	-	Collision	-	Species may pass through the Array Area during annual migration.	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.  LSE is ruled out for all other impacts.
Firth of Forth SPA and Ramsar	232.9	160.71	Pink-footed goose Bar-tailed godwit Common scoter Cormorant Curlew Dunlin Eider Golden plover Goldeneye Great crested grebe Grey plover Knot Lapwing Long-tailed duck Mallard Oystercatcher Red-breasted merganser Red-throated diver Redshank Ringed plover Scaup Shelduck Slavonian grebe Turnstone Velvet scoter Wigeon	Non-breeding	-	Collision	-	Species may pass through the Array Area during annual migration.	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.  LSE is ruled out for all other impacts.
Firth of Tay and Eden Estuary SPA and Ramsar	233.7	150.85	Little tern Marsh harrier	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.
Firth of Tay and Eden Estuary SPA and Ramsar	233.7	150.85	Pink-footed goose Greylag goose Bar-tailed godwit Common scoter Cormorant Dunlin Eider Goldeneye Goosander Grey plover Black-tailed godwit Long-tailed duck Oystercatcher Red-breasted merganser Redshank Sanderling Shelduck Velvet scoter	Non-breeding	-	Collision	-	Species may pass through the Array Area during annual migration.	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.  LSE is ruled out for all other impacts.
Forth Islands SPA	238.54	171.12	Gannet Kittiwake	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of these species (Woodward et al., 2019).  These species are considered sensitive to collision risk (Bradbury et al., 2014).	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of these species.  LSE is ruled out for all other impacts.

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
						Impacts to prey species		<p>These species are not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>These species are considered sensitive to changes to prey.</p>	
Forth Islands SPA	238.54	171.12	Puffin	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects Impacts to prey species  Entanglement	Disturbance and displacement  Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey and entanglement.</p>	<p>There is no LSE identified for collision, based on lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Forth Islands SPA	238.54	171.12	Arctic tern Common tern Cormorant Guillemot Herring gull Lesser black-backed gull Razorbill Roseate tern Sandwich tern Shag	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
Handa SPA	244.28	251.65	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Handa SPA	244.28	251.65	Great skua	Breeding	Impacts to prey species	Collision  Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for disturbance and displacement, entanglement or barrier effects, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for collision and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Handa SPA	244.28	251.65	Kittiwake	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	
Handa SPA	244.28	251.65	Guillemot Razorbill	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.
Hermaness, Saxa Vord and Valla Field SPA	246.19	286.36	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Hermaness, Saxa Vord and Valla Field SPA	246.19	286.36	Great skua	Breeding	Impacts to prey species	Collision  Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for disturbance and displacement, entanglement or barrier effects, on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for collision and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Hermaness, Saxa Vord and Valla Field SPA	246.19	286.36	Gannet Kittiwake	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of these species (Woodward <i>et al.</i> , 2019).  These species are considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  These species are not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  These species are considered sensitive to changes to prey.	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of these species.  LSE is ruled out for all other impacts.
Hermaness, Saxa Vord and Valla Field SPA	246.19	286.36	Puffin	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species  Entanglement	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is considered to be sensitive to disturbance from vessel activity, and disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey and entanglement.	There is no LSE identified for collision, based on lack of sensitivity of this species.  LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and impacts to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Hermaness, Saxa Vord and Valla Field SPA	246.19	286.36	Guillemot Red-throated diver	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.
St Abbs Head to Fast Castle SPA	262.64	189.67	Kittiwake	Breeding	Disturbance and displacement	Collision	Disturbance and displacement	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and impacts to prey,

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
					Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Impacts to prey species	<p>This species is considered sensitive to collision risk (Bradbury et al., 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury et al., 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	based on connectivity with the Proposed Development and sensitivity of this species.
St Abbs Head to Fast Castle SPA	262.64	189.67	Guillemot Herring gull Razorbill Shag	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.
North Rona and Sula Sgeir SPA	267.03	289.39	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward et al., 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury et al., 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury et al., 2014).</p> <p>This species is considered sensitive to risk of accidental pollution.</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
North Rona and Sula Sgeir SPA	267.03	289.39	Gannet Kittiwake	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of these species (Woodward et al., 2019).</p> <p>These species are considered sensitive to collision risk (Bradbury et al., 2014).</p> <p>These species are not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury et al., 2014).</p> <p>These species are considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects, and impacts to prey, based on connectivity with the Proposed Development and sensitivity of these species.</p> <p>LSE is ruled out for all other impacts.</p>
North Rona and Sula Sgeir SPA	267.03	284.39	Puffin	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of this species.	There is no LSE identified for any effect on basis of no connectivity.
North Rona and Sula Sgeir SPA	267.03	284.39	Leach's storm petrel European storm petrel	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of these species (Woodward et al., 2019).</p> <p>These species are not considered to be sensitive to collision risk (Bradbury et al., 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for these species.</p> <p>These species are considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of these species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of these species.</p> <p>LSE is ruled out for all other impacts.</p>
North Rona and Sula Sgeir SPA	267.03	284.39	Great black-backed gull Guillemot Razorbill	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.
Shiant Isles SPA	325.24	332.40	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward et al., 2019).	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.



Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology									
Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								<p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Shiant Isles SPA	325.24	332.40	Guillemot Kittiwake Puffin Razorbill Shag	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity.
Shiant Isles SPA	325.24	332.40	Greenland barnacle goose	Non-breeding	-	-	-	The Array Area and ECC Search Area are outwith the migration route of this species.	There is no LSE identified for any effect on basis of no connectivity.
Flannan Isles SPA	368.03	382.94	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Flannan Isles SPA	368.03	382.94	Leach's storm petrel	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Flannan Isles SPA	368.03	382.94	Guillemot Kittiwake Puffin Razorbill	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.
Seas of St Kilda SPA	383.04	415.81	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Seas of St Kilda SPA	383.04	415.81	Gannet	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects	Disturbance and displacement  Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology									
Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
						Impacts to prey species		effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	
Seas of St Kilda SPA	383.04	415.81	Puffin Guillemot European storm petrel	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.
Rum SPA	432.45	444.11	Manx shearwater	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.  This species is considered sensitive to changes to prey but not entanglement.	There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Rum SPA	432.45	444.11	Golden eagle Guillemot Kittiwake Red-throated diver	Breeding	-	-	-	The Array Area and ECC Search Area are outwith the recommended foraging range of these species.	There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.
St Kilda SPA	435.26	457.33	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no potential for LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
St Kilda SPA	435.26	457.33	Gannet	Breeding	Disturbance and displacement  Impacts to prey species	Collision  Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
St Kilda SPA	435.26	457.33	Leach's storm petrel	Breeding	Disturbance and displacement  Impacts to prey species	Disturbance and displacement  Barrier effects  Impacts to prey species	Disturbance and displacement  Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.  This species is considered sensitive to changes to prey but not entanglement.	There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.

Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology									
Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
St Kilda SPA	435.26	457.33	Great skua	Breeding	Impacts to prey species	Collision Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey or entanglement.</p>	<p>There is no LSE identified for disturbance and displacement, entanglement or barrier effects, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for collision and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
St Kilda SPA	435.26	457.33	Guillemot Kittiwake Puffin Razorbill European storm petrel	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity with the Proposed Development.</p>
Flamborough and Filey Coast SPA	446.73	399.94	Gannet	Breeding	Disturbance and displacement Impacts to prey species	Collision Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Flamborough and Filey Coast SPA	446.73	399.94	Razorbill Guillemot Kittiwake	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
Mingulay and Berneray SPA	467.87	482.20	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Mingulay and Berneray SPA	467.87	482.20	Razorbill Puffin Shag Kittiwake Guillemot	Breeding	-	-	-	<p>The Array Area and ECC Search Area are outwith the recommended foraging range of these species.</p>	<p>There is no LSE identified for any effect on basis of no connectivity.</p>
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 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.									
Horn Head to Fanad Head SPA	633.43	663.24	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology									
Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Tory Island SPA	643.9	674.17	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>This species is considered sensitive to changes to prey.</p> <p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
West Donegal Coast SPA	662.22	704.54	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Seevogelschutzgebiet Helgoland SPA	707.33	732.406	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Inishmurray SPA	750.2	785.69	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Irish Sea Front SPA	821.62	844.94	Manx shearwater	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effect and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>



**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Clare Island SPA	855.16	891.25	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Lambay Island SPA	856.08	883.71	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
High Island, Inishshark and Davillaun SPA	869.98	908.28	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Cruagh Island SPA	880.23	917.70	Manx shearwater	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Illaunnaon SPA	882.56	921.01	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Wicklow Head SPA	911.14	942.95	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Glannau Aberdaron ac Ynys Enlli / Aberdaron Coast and Bardsey Island SPA	925.33	954.15	Manx shearwater	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Inishmore SPA	930.59	971.81	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Littoral seino-marin SPA	938.23	1,684.34	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Cliffs of Moher SPA	966.17	1,001.99	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Illaunonearaun SPA	984.40	1,028.22	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Loop Head SPA	991.63	1,030.25	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Kerry Head SPA	1,005.27	1,046.01	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Magharee Islands SPA	1,013.25	1,052.94	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Dingle Peninsula SPA	1,018.04	1,065.33	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
Saltee Islands SPA	1,019.82	1,059.37	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Saltee Islands SPA	1,019.82	1,059.37	Manx shearwater	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and Impacts to prey species on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Basket Islands SPA	1,037.66	1,085.37	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Basket Islands SPA	1,037.66	1,085.37	Manx shearwater	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Skomer, Skokholm and the Seas off Pembrokeshire SPA	1,040.82	1,068.87	Manx shearwater	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Iveragh Peninsula SPA	1,059.33	1,108.75	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p>

**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								<p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Puffin Island SPA	1,068.39	1,117.37	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Puffin Island SPA	1,068.39	1,117.37	Manx shearwater	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects Impacts to prey species	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.</p> <p>This species is considered sensitive to changes to prey but not entanglement.</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on the basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Falaise du Bessin Occidental SPA	1,076.17	1,635.70	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Deenish Island and Scariff Island SPA	1,088.97	1,134.09	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p> <p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	<p>There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.</p> <p>LSE is ruled out for all other impacts.</p>
Deenish Island and Scariff Island SPA	1,088.97	1,134.09	Manx shearwater	Breeding	Disturbance and displacement Impacts to prey species	Disturbance and displacement Barrier effects	Disturbance and displacement Impacts to prey species	<p>The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i>, 2019).</p> <p>This species is not considered to be sensitive to collision risk (Bradbury <i>et al.</i>, 2014).</p>	<p>There is no LSE from collision or entanglement, on the basis of lack of sensitivity of this species.</p> <p>LSE cannot be ruled out for disturbance and displacement, barrier effects and impacts to prey on</p>



**Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology**

Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
						Impacts to prey species		Recent scoping advice from NatureScot is to include disturbance and displacement (and associated barrier effects) risks for this species.  This species is considered sensitive to changes to prey but not entanglement.	the basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Helvick Head to Ballyquin SPA	1,089.48	1,134.09	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Beara Peninsula SPA	1,102.41	1,150.92	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Sheep's Head to Toe Head SPA	1,125.73	1,179.07	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Old Head of Kinsale SPA	1,168.42	1,219.09	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).  This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i> , 2014).  This species is considered sensitive to changes to prey.	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.  LSE is ruled out for all other impacts.
Galley Head to Duneen Point SPA	1,193.52	1,244.97	Fulmar	Breeding	Impacts to prey species	Impacts to prey species	Impacts to prey species	The Array Area and ECC Search Area are within foraging range of this species (Woodward <i>et al.</i> , 2019).  This species is not considered sensitive to collision risk (Bradbury <i>et al.</i> , 2014).	There is no LSE identified for collision, disturbance and displacement or barrier effects to this species on the basis of lack of sensitivity of this species.  LSE cannot be ruled out for changes to prey on basis of connectivity with the Proposed Development and sensitivity of this species.

Table 5.5 – Determination of LSE for Offshore and Intertidal Ornithology									
Site Name	Distance to designated site (km) at the closest point		Qualifying feature	Breeding/non-breeding	Impact Pathway (screened in)			Assessment of LSE	Conclusion of LSE
	Array Area	ECC Search Area			Construction	O&M	Decommissioning		
								<p>This species is not considered to be sensitive to entanglement, disturbance from vessel activity, or disturbance and displacement (and associated barrier effects) from offshore wind farms and associated infrastructure (Bradbury <i>et al.</i>, 2014).</p> <p>This species is considered sensitive to changes to prey.</p>	LSE is ruled out for all other impacts.

## 5.4 Annex II Migratory Fish

### 5.4.1 Impact Pathways

Both direct and indirect impacts on fish species may arise from the construction, operation & maintenance, and decommissioning activities of the Proposed Development (Table 5.6). Detail on these impacts, and how Annex II migratory fish species may be affected, are presented in the subsequent section.

Potential Effect	Activities with Potential to Cause Effect		
	Construction	O&M	Decommissioning
Direct temporary habitat disturbance	✓	✓	✓
Long term habitat loss	✗	✓	✗
Increases in Suspended Sediment Concentrations (SSC) and sediment deposition	✓	✓	✓
Increases in underwater noise	✓	✓	✓
Introduction of Invasive Non-Native Species (INNS)	✓	✓	✓
Electromagnetic Fields (EMF) and thermal effects arising from energised cables	✗	✓	✗
Accidental pollution events	✓	✓	✓
Secondary entanglement (e.g., within lost fishing gear)	✗	✓	✗

### 5.4.2 Description of impacts

#### 5.4.2.1 Direct temporary habitat disturbance & Long-term habitat loss

There is the potential for direct temporary habitat disturbance during construction owing to seabed preparation works e.g., boulder clearance, through operational maintenance activities including cable repair and re-burial, or through the use of jack-up vessels to facilitate repairs. Due to the placement of infrastructure and associated scour and cable protection, there is also the potential for long term habitat loss. Any such impacts would be spatially restricted to the Proposed Development location. As no European sites designated for Annex II diadromous fish species overlap the Proposed Development (the Array Area and the ECC Search Area), there is no potential for direct impacts to any supporting habitats or Annex II species within a European site, however due to the migratory nature of these species, the potential for connectivity remains.

Tagging evidence suggests adult salmon at sea are predominantly surface orientated with the majority of time spent between 0 – 10 m from the surface when migrating away from rivers (Godfrey *et al.*, 2015), this is also true of homeward migrating salmon near natal rivers. Research does however show that salmon also appear to be able to forage on prey far below the surface, and their ability to feed at different depths, expands the foraging niche of salmonids (Rikardesn *et al.*, 2021; Hedger *et al.*, 2017). Salmon, once out of their natal rivers, head to deep sea feeding areas in the Norwegian sea and to the waters off

south west Greenland<sup>6</sup>. Any seabed disturbance or loss would not affect the majority of migrating salmon, given that salmon appear to be surface orientated until deeper foraging grounds are reached.

Similarly, sea lamprey are highly mobile and any potential impact on the seabed will be negligible due to their highly mobile and transient nature (Scottish Government, 2019). Lamprey are parasitic at sea and do not rely on specific foraging areas at sea. Given the majority of the North Sea is composed of similar habitats, it is considered that any impact on lamprey species be negligible.

It is considered that any impacts on the seabed within the Proposed Development Array Area or ECC Search Area arising through direct temporary habitat disturbance or long term habitat loss will have a negligible impact on Annex II migratory fish species. There is a very low likelihood of interaction and lack of sensitivity to the impact pathway, however as connectivity and route to impact cannot be ruled out, LSE cannot be ruled out for direct temporary habitat disturbance and long term habitat loss, where connectivity with a European site exists and therefore this impact is screened in for further assessment.

#### 5.4.2.2 Increase in suspended sediment concentrations (SSC) and sediment deposition

Construction, O&M and decommissioning activities including cable installation and seabed preparation works may lead to sediment disturbance which may have the potential to result in temporary, indirect impacts such as a temporary increase in suspended sediment concentrations (SSC) levels. The spatial extent of this will be limited to the development footprint and the immediate surrounding area. Tidal movement ranges from 5 to 15 km respectively (ABPmer *et al.* 2008) in proximity to the Array Area and ECC Search Area (a precautionary 25 km has been used as part of the approach to screening for Annex I marine habitats in Section 4.2- Annex I Habitats). Within this area, there is no direct overlap with any European sites for which Annex II diadromous species are a feature. The potential does however remain for migratory fish to be present within the vicinity of the project and to thus be affected by increases in SSC.

The species in question are however highly mobile and are able to avoid areas of high SSC and turbid water, seeking alternative areas for feeding or for migration. Based upon the tidal information, any areas of elevated SSC are predicted to be small in scale relative to the wider availability of suitable habitat. Any increases in SSC would also be temporary and intermittent. Increases in SSC would also be more concentrated near the seabed where works are being undertaken, with migratory fish having the ability to avoid elevated levels of SSC.

Increased SSC on salmonids are known to have the potential to cause a range of physiological, behavioural and habitat effects, and exposure can lead to increased levels physiological stress and reduced survival rates (Bash *et al.*, 2001). However, as noted above, these species are highly mobile, with the ability to migrate vertically through the water column and therefore have the potential to avoid any areas of increased SSC if required. Furthermore, migratory Annex II fish pass through tidal estuarine environments with high levels of SSC and turbidity in the water column whilst undertaking migration (Scottish Government, 2019) suggesting tolerance to intermittent exposure to SSC as might be experienced in the vicinity of the Proposed Development.

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<sup>6</sup> <https://www.nature.scot/plants-animals-and-fungi/fish/freshwater-fish/atlantic-salmon>

It is considered that impacts arising from any increases in SSC and sediment deposition arising from the Proposed Development will be negligible on Annex II migratory fish species. There is a very low likelihood of interaction and lack of sensitivity to the impact pathway, however at this stage LSE cannot be ruled out for increased in SSC and sediment deposition where connectivity with a European site exists, and therefore this impact is screened in for further assessment.

#### 5.4.2.3 Increases in underwater noise

Underwater noise from construction (and decommissioning) and O&M activities has the potential to cause mortality, injury, or behavioural changes. Noise can arise from piling operations as well as general vessel or offshore construction noise, though the greatest levels of noise are likely to arise from piling operations or UXO clearance. Noise generated from construction methods will be temporary and intermittent. There is no overlap with any European site designated for Annex II migratory species, with the nearest site designated for Annex II migratory fish features being 50 km away from the ECC Search Area (over 100 km from the Array Area). The potential does however remain for migratory fish to be present within the vicinity of the project and to thus be affected by increased underwater noise.

A MSD study on salmon observed no clear evidence of even a behavioural response in relation to mimicked piling hammer strikes, concluding salmon did not perceive pile driving noise as a stressor due to the lack of specialised hearing mechanism rendering them insensitive to sound pressure changes (Harding *et al.*, 2016). Similarly, lamprey species are categorised as having low hearing sensitivity (Popper *et al.*, 2014) as they lack any specialist hearing structures, and thus are not considered overly sensitive to noise impacts.

Operational noise from wind turbines is of a very low level, and considered to only have the potential to cause behavioural reaction within metres from a generating turbine (Andersson *et al.*, 2011; Sigraay and Andersson 2011). The same is thought to be true of operating vessels, with any impacts seen reliant on prolonged proximal exposure. Such long-term exposure or behavioural response is highly unlikely to occur in species actively moving towards offshore feeding grounds or returning to natal rivers. It is also considered that an additional source of intermittent noise could be generated by the movement of mooring lines that are used to anchor the floating turbines.

It is considered that increases in underwater noise arising from the Proposed Development will have a negligible impact on Annex II migratory fish species, throughout all phases of the Project (i.e., construction and operation and maintenance, and decommissioning). There is a very low likelihood of interaction and lack of sensitivity to the impact pathway, however LSE cannot be ruled out for increases in underwater noise where connectivity with a European site exists, and therefore this impact is screened in for further assessment.

#### 5.4.2.4 Electromagnetic Fields (EMF) and thermal effects of cables

Migratory fish are considered able to detect magnetic fields that will be present around energised cables, should they be within close proximity (Gill and Bartlett, 2010). However recent studies have shown that cables used in offshore wind developments do not emit EMF strong enough to influence salmonids or other fish species sensitive to EMF (Armstrong *et al.*, 2015). Armstrong *et al.* (2015) reported that the EMF at levels likely to be emitted from cables from offshore wind farm projects results in no unusual



behaviours in Atlantic salmon (both adult and smolt stages). Cables also dissipate heat owing to the thermal emissions produced from the cables.

It is recognised however that cables for floating projects are, for a certain parts of the cable length, located within the water column, and as such the interaction of migratory Annex II fish with cables for floating projects differs from that of traditional fixed foundation projects.

It is considered that increases in EMF and thermal emissions arising from the Proposed Development will have a negligible impact on Annex II migratory fish species. There is a very low likelihood of interaction and lack of sensitivity to the impact pathway, however LSE cannot be ruled out for increases in EMF and thermal effects where connectivity with a European site exists, and therefore this impact is screened in for further assessment.

#### 5.4.2.5 Accidental Pollution Events

The risk of pollution incidents arising will be in accordance with relevant legislation in place at the time, such as the IMO MARPOL Guidelines , secured through measures committed to in the MCPC or equivalent. This will reduce the risk of pollution events occurring to a level that can be considered as low as reasonably practicable.

As the nearest European site designated for Annex II migratory species is c. 50 km from the Proposed Development, and effects of tidal dispersal are predicted to be within 15 km (although a precautionary 25 km was used in Section 4.2 - Annex I Habitats for screening connectivity with Annex I marine habitats). It is considered there is no potential for the Proposed Development to affect any European site designated for Annex II migratory fish.

It is therefore considered that any adverse impact arising from an accidental pollution event connected to the Proposed Development will have no LSE on Annex II fish species. As such this impact is screened out.

#### 5.4.2.6 Introduction of Invasive Non-Native Species (INNS)

Impacts of invasive species on Annex II migratory species relate to impacts on their riverine environments<sup>7</sup>, and no marine INNS are considered to have the potential to impact migratory species at sea.

The nearest European site designated for Annex II migratory species is c. 50 km from the Proposed Development, and as the impact of tidal dispersal are predicted to be within 15 km, it is considered there is no potential for the Proposed Development to affect any European site designated for Annex II migratory fish through the introduction of INNS. Although Annex II migratory species in the Scottish offshore marine environment are considered to be widely dispersed, it is still considered there is a negligible risk of interaction.

As there is a very low likelihood of interaction and lack of sensitivity to the impact pathway, it is considered that no LSE will arise for any introduction of INNS therefore this impact is screened out for further assessment. Furthermore, distinct from HRA considerations, in order to comply with relevant legislative

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<sup>7</sup> <https://fms.scot/invasive-non-native-species/>

requirements i.e., IMO International Convention for the Control and Management of Ships Ballast Water and Sediments, requirements to management possible INNS will be implemented through a biosecurity plan or similar.

#### 5.4.2.7 Secondary entanglement (e.g., within lost fishing gear)

Entanglement within lost fishing gear is only likely to occur within the footprint of the Array Area where any such lost gear could potentially become caught in mooring lines or vertical cables. Annex II migratory species in the Scottish offshore marine environment are also considered to be widely dispersed, and as such, the risk of interaction with a very low probability event is considered to be negligible.

Although the likelihood of lost gear being a. present, and b. entangled within Proposed Development infrastructure and able to entangle Annex II migratory fish is considered low to negligible, as this impact cannot at this time be fully ruled out, it is considered that LSE cannot be ruled out and this impact is screened in for further assessment.

#### 5.4.3 Determination of LSE

Table 5.7 sets out the determination of LSE for all European sites where connectivity is considered possible.

Table 5.7– Potential for LSE in migratory fish receptors			
Site Name	Qualifying Feature	Assessment of LSE	Screened in / out
River Dee SAC	Atlantic salmon Freshwater Pearl Mussel	Based upon the assessment of LSE for the Proposed Development alone (see section 5.4), LSE cannot be ruled out for all European Sites for: <ul style="list-style-type: none"> <li>• Direct temporary habitat disturbance and long term habitat loss;</li> <li>• Increase in SSC and sediment deposition;</li> <li>• Increases in underwater noise;</li> <li>• Increases in EMF and thermal effects of cables; and</li> <li>• Secondary entanglement.</li> </ul> As LSE cannot be ruled out on migratory Atlantic salmon, LSE on FWPM is also not ruled out due to indirect effects. <p>These SACs and relevant features will therefore be taken forward to the next stage of assessment.</p>	Screened In
River Spey SAC	Atlantic salmon Freshwater Pearl Mussel Sea lamprey		
River South Esk SAC	Atlantic salmon Freshwater Pearl Mussel		
River Tweed SAC	Atlantic salmon River lamprey Sea lamprey		
Berriedale and Langwell Waters SAC	Atlantic salmon		
River Thurso SAC	Atlantic salmon		
River Oykel SAC	Atlantic salmon Freshwater Pearl Mussel		
River Tay SAC	Atlantic salmon River lamprey Sea lamprey		
River Moriston SAC	Atlantic salmon Freshwater Pearl Mussel		
Tweed Estuary SAC	River lamprey Sea lamprey		
River Teith SAC	River lamprey Sea lamprey Atlantic Salmon		
River Derwent SAC	River lamprey Sea lamprey		

## 6 IN-COMBINATION ASSESSMENT

### 6.1 Approach to In-Combination Assessment

The following sections set out where in-combination LSE assessments have been undertaken, and their conclusions.

Where the Proposed Development alone assessment concluded that LSE could not be ruled out on a European site, that site will be taken forward to the next stage in the HRA process and no in-combination LSE assessment is deemed necessary in this HRA Screening Report. A detailed in combination assessment will be undertaken as part of the RIAA, and further consultation and advice will be sought from NatureScot and other relevant consultees regarding the plans and projects to be considered as part of the assessment.

Where no LSE was concluded for the Proposed Development alone, on the basis that there is no connectivity or there is an absence of an impact pathway, no in-combination impact is considered possible, and LSE in-combination can be ruled out.

In-combination assessments at LSE screening stage are only required to be undertaken where there is potential for connectivity and a potential pathway for likely significant effect to occur, but the impacts from the Proposed Development are unlikely to result in a LSE alone. In that situation, an assessment for in-combination LSE will be undertaken, and where LSE cannot be ruled out this will be considered in more detail as part of the RIAA.

The approach to determining what plans and projects will be considered as part of in-combination assessments is similar to that outlined in Chapter 4, (section 4.4 - Approach to Cumulative Impact Assessment) of the Offshore EIA Scoping Report ([Buchan Offshore Wind, 2023](#)). In brief, a long list of plans and projects will be produced based upon a maximum Zone of Influence (Zoi) for the Proposed Development. The in-combination assessment will then consider plans and projects where:

- There is potential temporal overlap between the Proposed Development and other plans and projects;
- There is potential spatial overlap between the Proposed Development and other plans and projects including consideration of the Zoi for each environmental impact being considered; and
- The scale and nature of other plans and projects is such that there is potential interaction and in-combination effects with the Proposed Development.

### 6.2 Annex I Habitats

No connectivity with any SAC designated for Annex I habitats was determined. As such there is no potential for in-combination impacts to arise, and no LSE in-combination can be concluded.

### 6.3 Annex II Marine Mammals

Where connectivity and an impact pathway has been identified for marine mammal receptors that are qualifying features of SACs, these SACs have been screened in for further assessment in the RIAA, and the relevant impacts, including in-combination with other plans and projects, will be assessed in the next stage of the assessment.

Where SACs have been screened out (on the basis that there is either no connectivity, or no route to impact), there is no potential for site alone impacts. As a result, there is no potential for in-combination impacts and LSE in-combination can be ruled out on those designated sites.

For Annex II marine mammals, European Sites have either been screened in based on project alone impacts, or screened out on the basis that there is no connectivity or impact pathway arising from the Proposed Development. As such, no in-combination assessment of LSE is needed at this LSE screening stage.

#### 6.4 Offshore and Intertidal Ornithology (Annex I Birds)

Where connectivity and an impact pathway have been identified for ornithological receptors that are features of SPAs for the Proposed Development, these have been screened in for further assessment as part of the RIAA, and the relevant impacts, including in-combination with other plans and projects, will be assessed in the next stage of the assessment.

Where SPAs have been screened out (on the basis that there is either no connectivity, or no route to impact), there is no potential for site alone impact. As a result, there is no potential for in-combination impacts and LSE in-combination can be ruled out on those designated sites.

For Annex I birds, European Sites have either been screened in based on project alone impacts, or screened out on the basis that there is no connectivity or impact pathway arising from the Proposed Development. As such, no in-combination assessment of LSE is required at this LSE screening stage.

#### 6.5 Annex II Migratory Fish

Where connectivity and an impact pathway have been identified for Annex II migratory fish receptors that are qualifying features of SACs for the Proposed Development alone, these have been screened in for further assessment in the RIAA, and the relevant impacts, including in-combination with other plans and projects, will be assessed in the next stage of the assessment.

Where SACs have been screened out (on the basis that there is either no connectivity, or no route to impact), there is no potential for site alone impacts. As a result, there is no potential for in-combination impacts and LSE in-combination can be ruled out on those designated sites.

For Annex II fish, European Sites have either been screened in based on project alone impacts, or screened out on the basis that there is no connectivity or impact pathway arising from the Proposed Development. As such, no in-combination assessment of LSE is required at this screening stage.

## 7 CONCLUSIONS

### 7.1 Annex I Habitats

No SACs designated for Annex I habitats were screened into further assessment as part of the AA, on the basis of no connectivity with the Proposed Development either alone or in-combination with other plans and projects.

### 7.2 Annex II Marine Mammal Species

Thirty four SACs, including the following UK sites, were screened in for further assessment Moray Firth SAC (designated for bottlenose dolphin), and Southern North Sea SAC (designated for harbour porpoise). In addition, 32 transboundary sites for harbour porpoise were also screened in on the basis that they lie within the North Sea management unit.

LSE could not be ruled out for the following impact pathways: increased underwater noise (piling); increased underwater noise (UXO clearance work); increased underwater noise (surveys); increased underwater noise (operation – WTGs and moorings); secondary entanglement; and EMF.

The SACs which were screened in will be assessed for project alone and in-combination impacts in the next stage of the assessment i.e. AA stage, and included in the Applicant's RIAA.

### 7.3 Offshore and Intertidal Ornithology (Annex I Birds)

A total of 77 SPAs and nine Ramsars have been screened in for further assessment, on the basis of the conclusion that LSE could not be ruled out for these sites.

European sites have been screened in on the conclusion of a LSE as a result of effects including collision; disturbance and displacement; Impacts to prey species; and barrier effects.

Appendix A provides a summary of the screening conclusion for all screened in sites, along with a breakdown of the potential impacts for which LSE could not be ruled out for each species during the three phases of the Proposed Development (construction, O&M and decommissioning). The SPA's which were screened in will be assessed for project alone and in-combination impacts in the next stage of the assessment i.e. AA stage, and included in the Applicant's RIAA..

### 7.4 Annex II Migratory Fish

12 SACs identified in Section 4.5 - Annex II Migratory Fish have been screened in for further assessment, on the basis that LSE cannot be ruled out for these sites for: direct temporary habitat disturbance and long term habitat loss; increase in SSC and sediment deposition; increases in underwater noise; increases in EMF and thermal impacts of cables; and secondary entanglement.

The SACs which were screened in will be assessed for project alone and in-combination impacts in the next stage of the assessment i.e. AA stage, and included in the Applicant's RIAA.



## 8 REFERENCES

Andersson, M., Sigray, P. and Persson, L. (2011). Operational Wind Farm Noise and Shipping Noise Compared with Estimated Zones of Audibility for Four Species of Fish. *Journal of The Acoustical Society of America*. Vol.129. 10.

Armstrong, D., Hunter, D.C., Fryer, R.J., Rycroft, P. and Orpwood, J.E. (2015). Scottish Marine and Freshwater Science. Volume 6 Number 9. Behavioural Responses of Atlantic Salmon to Mains Frequency Magnetic Fields.

ABPmer, Met Office and POL. (2008). Atlas of UK Marine Renewable Energy Resources: Atlas Pages. A Strategic Environmental Assessment Report, March 2008. Produced for BERR. Available at: <http://www.renewables-atlas.info> [Accessed on 21/04/2023].

Bash, J., Berman, C., and Bolton, S. (2001). Effects of turbidity and suspended sediments on salmonids. Draft research report. 92pp. Available at: <https://www.wsdot.wa.gov/research/reports/fullreports/526.1.pdf> [Accessed on: 19/05/2023].

Benjamins, S., Harnois, V., Smith, H.C.M., Johanning, L., Greenhill, L., Carter, C. and Wilson, B. 2014. Understanding the potential for marine megafauna entanglement risk from renewable marine energy developments. Scottish Natural Heritage Commissioned Report No. 791.

Bradbury, G., Trinder, M., Furness, B., Banks, A.N, Caldow, R.W.G. and Hume, D., (2014). 'Mapping Seabird Sensitivity to Offshore Wind Farms'. PLoS ONE. 9(9): e106366

Brasseur, S., Aarts, G., Meesters, E., van Polanen Petel, T., Dijkman, E., Cremer, J. and Reijnders, P. (2012). Habitat preferences of harbour seals in the Dutch coastal area: analysis and estimate of effects of offshore wind farms. Report Number OWEZ R 252 T1 20120130.

Brookes, K., Edwards, E. And Bennet, F. (2017). Harbor porpoises and offshore wind energy. Working together to resolve environmental effects of wind energy (WREN) short science summary 05/17. Available at: <https://tethys.pnnl.gov/sites/default/files/WRENharborporpoiseV3.pdf> [Accessed on 23/11/2023].

Buchan Offshore Wind (2023). Offshore Scoping Report. Available at: <https://marine.gov.scot/node/24504>

Czech-Damal, N.U., Liebschner, A., Miersch, L., Klauer, G., Hanke, F.D., Marshall, C., Dehnhardt, G. and Hanke, W. (2012). Electroreception in the Guiana dolphin (*Sotalia guianensis*). Proceedings of the Royal Society B 279: 663-668.

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.

Furness, R. W. (2015). Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPS). Natural England Commissioned Reports, (164).

Gill, A. B. and Bartlett, M. (2010) Literature review on the potential effects of electromagnetic fields and subsea noise from marine renewable energy developments on Atlantic salmon, sea trout and European eel. Scottish Natural Heritage (SNH) Commissioned Report No. 401.

Godfrey, J. D., Stewart, D. C., Middlemas, S. J. and Armstrong, J. D. (2015). Depth use and migratory behaviour of homing Atlantic salmon (*Salmo salar*) in Scottish coastal waters. *ICES Journal of Marine Science*, Volume 72, Issue 2, January/February 2015, Pages 568 – 575. Available at: <https://doi.org/10.1093/icesjms/fsu118> [Accessed on: 18/05/2023].

Harding, H., Brintjes, R., Radford, A. N., and Simpson, S. D. (2016). Measurement of Hearing in the Atlantic salmon (*Salmo salar*) using Auditory Evoked Potentials, and effects of Pile Driving Playback on salmon Behaviour and Physiology. Scottish Marine and Freshwater Science Report, Vol 7 No 11. Available at: <https://www.gov.scot/publications/measurement-hearing-atlantic-salmon-salmo-salar/documents/> [Accessed on: 18/05/2023].

Hedger, R. D., Rikardsen, A. H., Strøm, J. F., Rightinm D. A., Thorstad, E. B., and Næsje, T. F. (2017) Diving behaviour of Atlantic salmon at sea: Effects of light regimes and temperature stratification. *Marine Ecology Progress Series*, **574**: 127–140.

Hüttner, T., von Fersen, L., Miersch, L., Czech Guido Dehnhardt, N.U. (2021). Behavioral and anatomical evidence for electroreception in the bottlenose dolphin (*Tursiops truncatus*). *The Anatomical Record* 305: 592-608.

IAMMWG. (2023). Review of Management Unit boundaries for cetaceans in UK waters (2023). JNCC Report 734, JNCC, Peterborough, ISSN 0963-8091.

JNCC. (2020). Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs (England, Wales & Northern Ireland). JNCC Report No. 654, JNCC, Peterborough, ISSN 0963-8091.

Maitland, P. S. (2003). *Ecology of the River, Brook and Sea Lamprey*. Conserving Natura 2000 Rivers Ecology Series No. 5. English Nature, Peterborough. Available at: <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwisjKOSHdiCAxWTU0EAHfAuB2QQFnoECA4QAw&url=https%3A%2F%2Fpublications.naturalengland.org.uk%2Ffile%2F118013%23%3A~%3Atext%3Dimportance%2520in%2520Britain.%2CStatus%2520and%2520distribution%2Cin%2520Finland%252C%2520Russia%2520and%2520Scotland.&usg=AOvVaw3b8FkUObB3O33pWewbfXru&opi=89978449> [Accessed on 18/05/2023].

Malcolm, I. A., Godfrey, J., and Youngson, A. F. (2010). Review of migratory routes and behaviour of Atlantic salmon, sea trout and European eel in Scotland's coastal environment: implications for the development of marine renewables. Scottish Marine and Freshwater Science Vol 1 No 14. Available at: <https://data.marine.gov.scot/dataset/review-migratory-routes-and-behaviour-atlantic-salmon-sea-trout-and-european-eel-scotland%E2%80%99s> [Accessed 26/04/2023].

Marine Scotland – Licensing Operations Team. (2023). Scoping Opinion adopted by the Scottish Ministers for Caledonia Offshore Wind Farm. [https://marine.gov.scot/sites/default/files/scoping\\_opinion\\_12.pdf](https://marine.gov.scot/sites/default/files/scoping_opinion_12.pdf) [Accessed 19 December 2023].

McConnell, B., Fedak, M., Lovell, P. and Hammond, P. (1999). Movements and foraging areas of grey seals in the North Sea. *Journal of Applied Ecology* 36: 573-590.

Moray Firth Tracking Project, (2023). Atlantic Salmon Trust. Available at: <https://atlanticsalmontrust.org/our-work/morayfirthtrackingproject/>. [Accessed on: 29/10/2023].

Moray Offshore Wind Farm (West) Limited, (2017). Moray West Offshore Habitats Regulations Appraisal – HRA Screening Report. Available at: <https://marine.gov.scot/sites/default/files/00526279.pdf>. [Accessed on: 18/05/2023].

NatureScot (2023a). Guidance Note 3: Guidance to support Offshore Wind applications: Marine Birds – Identifying theoretical connectivity with breeding site Special Protection Areas using breeding season foraging ranges. NatureScot guidance. <https://www.nature.scot/doc/guidance-note-3-guidance-support-offshore-wind-applications-marine-birds-identifying-theoretical> [Accessed 23 November 2023].

NatureScot (2023b). Guidance Note 8: Guidance to support Offshore Wind applications: Marine Ornithology Advice for assessing the distributional responses, displacement and barrier effects of Marine birds. NatureScot guidance. <https://www.nature.scot/doc/guidance-note-8-guidance-support-offshore-wind-applications-marine-ornithology-advice-assessing> [Accessed 19 December 2023].

Normandeau, Exponent, Tricas, T. and Gill, A. (2011). Effects of EMFs from undersea power cables on elasmobranchs and other marine species. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Regulation, and Enforcement, Pacific OCS Region, Camarillo, CA. OCS Study BOEMRE 2011-09.

Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D.A., Bartol, S., Carlson, T.J., Coombs, S., Ellison, W.T., Gentry, R.L., Halvorsen, M.B., Løkkeborg, S., Rogers, P.H., Southall, B.L., Zeddies, D.G. and Tavolga, W.N. (2014). S3/SC1.4 TR-2014 Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards committee S3/SC1 and registered with ANSI. American National Standards Institute.

Rikardsen, A. H., Righton, D., Strøm, J. F., Thorstad, E. B., Gargan, P., Sheehan, T., Økland, F., Chittenden, C. M., Hedger, R. D., Naesje, T. F., Renkawitz, M., Sturlaugsson, J., Caballero, P., Baktoft, H., Davidsen, J. G., Halttunen, E., Wright, S., Finstad, B and Aarestrup, K. (2021). Redefining the oceanic distribution of Atlantic salmon. *Scientific Reports*, **11**. Article Number: 12266. Available at: <https://doi.org/10.1038/s41598-021-91137-y> [Accessed on: 20/05/2023].

Schoeman, R.P., Patterson-Abrolat, C. and Plön, S. (2020). A global review of vessel collisions with marine animals. *Frontiers in Marine Science* 7: 292. Doi: 10.3389/fmars.2020.00292.

SCOS. (2022). Scientific advice on matters related to the management of seal populations: 2022. Available at: <http://www.smru.st-andrews.ac.uk/scos/scos-reports/> [Accessed on: 14/11/2023].

Scottish Government (2020). *Sectoral marine plan for offshore wind energy*. Available online at: <https://www.gov.scot/publications/sectoral-marine-plan-offshore-wind-energy> [Accessed May 2023].

Scottish Government, 2019. Sectoral Marine Plan for Offshore Wind Energy – Strategic Habitat Regulations Appraisal (HRA): Screening and Appropriate Assessment Information Report – Final. Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/impact-assessment/2019/12/draft-sectoral-marine-plan-offshore-wind-energy-habitat-regulations->

[appraisal/documents/sectoral-marine-plan-offshore-wind-energy-strategic-habitat-regulations-appraisal-screening-appropriate-assessment-information-report-final/sectoral-marine-plan-offshore-wind-energy-strategic-habitat-regulations-appraisal-screening-appropriate-assessment-information-report-final/govscot%3Adocument/sectoral-marine-plan-offshore-wind-energy-strategic-habitat-regulations-appraisal-screening-appropriate-assessment-information-report-final.pdf](#) [Accessed on: 19/05/2023].

Scottish Natural Heritage. (2018). Interim Guidance on apportioning impacts from marine renewable developments to breeding seabird populations in SPAs. <https://www.nature.scot/doc/interim-guidance-apportioning-impacts-marine-renewable-developments-breeding-seabird-populations>. Accessed 23 November 2023.

Sharples, R.J., Moss, S.E., Patterson, T.A. and Hammond, P.S. (2012). Spatial variation in foraging behaviour of a marine top predator (*Phoca vitulina*) determined by a large-scale satellite tagging program. PLoS ONE 7(5): e37216. doi:10.1371/journal.pone.0037216.

Sigray, P. and Andersson, M. (2011). Particle motion measured at an operational wind turbine in relation to hearing sensitivity in fish. *The Journal of the Acoustical Society of America*. 130. 200-7.

SNCBs. (2022). Joint SNCB Interim Displacement Advice Note. Advice note prepared by the Marine Industry Group for ornithology with contributions from Joint Nature Conservation Committee, Natural England, Natural Resources Wales, Northern Ireland Environment Agency and Scottish Natural Heritage.

Teilmann, J., Tougaard, J. and Carstensen, J. (2006). Summary of harbour porpoise monitoring 1999–2005 around Nysted and Horns Rev offshore wind farms. Technical report to Energi E2 A/S and Vattenfall A/S.

Tougaard, J., Madsen, P.T. and Wahlberg, M. (2008). Underwater noise from construction and operation of offshore wind farms. *Bioacoustics* 17: 143-146.

Woodward, I., Thaxter, C. B., Owen, E., & Cook, A. S. C. P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. BTO research report, (724).

Wildfowl and Wetlands Trust (WWT). (2014). Strategic assessment of collision risk of Scottish offshore wind farms to migrating birds. Scottish Marine and Freshwater Science Report Volume 5 No 12. WWT report for Marine Scotland Science.

## Appendices

### Appendix A

Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
Loch of Strathbeg SPA and Ramsar	Sandwich tern	Disturbance and displacement Impact to prey effects	Disturbance and displacement Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement and prey effect on basis of connectivity with the ECC search area and sensitivity of this species.
Loch of Strathbeg SPA and Ramsar	Greylag goose Pink-footed goose Barnacle goose Whooper swan	Disturbance and displacement	Collision Barrier effects Disturbance and displacement	Disturbance and displacement	LSE cannot be ruled out for collision, disturbance and displacement, and barrier effects on basis of connectivity and sensitivity of this species.
Loch of Strathbeg SPA and Ramsar	Teal Goldeneye	Disturbance and displacement			LSE cannot be ruled out for disturbance and displacement, and barrier effects on basis of connectivity and sensitivity of this species.
Troup, Pennan and Lion's Heads SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Troup, Pennan and Lion's Heads SPA	Guillemot Razorbill	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Troup, Pennan and Lion's Heads SPA	Herring gull	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects, on the basis of connectivity and sensitivity of this species.
Troup, Pennan and Lion's Heads SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Buchan Ness to Collieston Coast SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Buchan Ness to Collieston Coast SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Buchan Ness to Collieston Coast SPA	Guillemot	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Buchan Ness to Collieston Coast SPA	Herring gull Shag	Disturbance and displacement Impact to prey effects	Disturbance and displacement Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement and prey effects on basis of connectivity and sensitivity of this species.
Copinsay SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Copinsay SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Copinsay SPA	Guillemot	Disturbance and displacement	Disturbance and displacement	Disturbance and displacement	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.



Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
		Impact to prey effects	Barrier effects Impact to prey effects Entanglement	Impact to prey effects	
Auskerry SPA	European storm petrel	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	There is no LSE from collision or entanglement, on the basis of insensitivity of this species. LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Scapa Flow SPA	Black-throated diver Eider Great northern diver Long-tailed duck Red-breasted merganser Shag Slavonian grebe	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.
Moray Firth SPA	Common scoter Eider Goldeneye Great northern diver Long-tailed duck Red-breasted merganser Red-throated diver Scaup Shag Slavonian grebe Velvet scoter	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.
North Caithness Cliffs SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
North Caithness Cliffs SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
North Caithness Cliffs SPA	Puffin Razorbill	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
East Caithness Cliffs SPA	Fulmar Guillemot Razorbill	Impact to prey effects Entanglement			LSE cannot be ruled out for entanglement and changes to prey on basis of connectivity and sensitivity of this species.
East Caithness Cliffs SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Fair Isle SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Fair Isle SPA	Great skua	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects on the basis of connectivity and sensitivity of this species.
Fair Isle SPA	Gannet Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.

Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
Fair Isle SPA	Puffin Razorbill Guillemot	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Hoy SPA	Fulmar Guillemot	Impact to prey effects Entanglement			LSE cannot be ruled out for changes to prey and entanglement on basis of connectivity and sensitivity of this species.
Hoy SPA	Great skua	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects on the basis of connectivity and sensitivity of this species.
Hoy SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Hoy SPA	Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Calf of Eday SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Calf of Eday SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Ythan Estuary & Meikle Loch SPA and Ramsar	Pink-footed goose Lapwing Redshank Eider	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.
Ythan Estuary & Meikle Loch SPA and Ramsar	Sandwich tern	Disturbance and displacement Impact to prey effects	Disturbance and displacement Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement and prey effect on basis of connectivity with the ECC search area and sensitivity of this species.
Moray and Nairn Coast Ramsar	Greylag geese Long-tailed duck	-	Collision	-	LSE cannot be ruled out for collision on basis of connectivity and sensitivity of this species.
Rousay SPA	Fulmar	Impact to prey effects	Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Rousay SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Rousay SPA	Guillemot	Impact to prey effects	Impact to prey effects Entanglement	Impact to prey effects	LSE cannot be ruled out for prey effects and entanglement on basis of connectivity and sensitivity of this species.
West Westray SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
West Westray SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.

Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
West Westray SPA	Guillemot Razorbill	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Sumburgh Head SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Sumburgh Head SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Seas off Foula SPA	Great skua	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects on the basis of connectivity and sensitivity of this species.
Seas off Foula SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Seas off Foula SPA	Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Marwick Head SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Fowlsheugh SPA	Fulmar Guillemot Razorbill	Impact to prey effects Entanglement			LSE cannot be ruled out for changes to prey and entanglement on basis of connectivity and sensitivity of this species.
Fowlsheugh SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Dornoch and Loch Fleet SPA and Ramsar	Greylag goose Bar-tailed godwit Wigeon Curlew Dunlin Oystercatcher Redshank Scaup Teal	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.
Inner Moray Firth SPA and Ramsar	Bar-tailed godwit Cormorant Curlew Goldeneye Goosander Greylag goose Oystercatcher Red-breasted merganser Redshank Scaup Teal Wigeon	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.

Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
Cromarty Firth SPA and Ramsar	Bar-tailed godwit Curlew Dunlin Greylag goose Knot Oystercatcher Pintail Red-breasted merganser Redshank Scaup Whooper swan Wigeon	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.
Noss SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Noss SPA	Gannet Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Noss SPA	Great skua	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects on the basis of connectivity and sensitivity of this species.
Noss SPA	Guillemot Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Mousa SPA	European storm petrel	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Foula SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Foula SPA	Great skua	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects on the basis of connectivity and sensitivity of this species.
Foula SPA	Leach's storm petrel	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Foula SPA	Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Foula SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Sule Skerry and Sule Stack SPA	Gannet	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.

Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
Sule Skerry and Sule Stack SPA	Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Sule Skerry and Sule Stack SPA	European storm petrel Leach's storm petrel	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Montrose Basin SPA and Ramsar	Pink-footed goose Greylag goose Dunlin Eider Knot Oystercatcher Redshank Shelduck Wigeon	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.
Outer Firth of Forth and St Andrews Bay Complex SPA	Gannet Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Outer Firth of Forth and St Andrews Bay Complex SPA	Manx shearwater	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Outer Firth of Forth and St Andrews Bay Complex SPA	Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Outer Firth of Forth and St Andrews Bay Complex SPA	Black-headed gull Common gull Common scoter Eider Goldeneye Herring gull Kittiwake Little gull Long-tailed duck Red-breasted merganser Red-throated diver Shag Slavonian grebe Velvet scoter	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.
Cape Wrath SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Cape Wrath SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Cape Wrath SPA	Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.



Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
			Impact to prey effects Entanglement		
Fetlar SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Fetlar SPA	Great skua	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects on the basis of connectivity and sensitivity of this species.
Firth of Forth SPA and Ramsar	Sandwich tern	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration
Firth of Forth SPA and Ramsar	Pink-footed goose Bar-tailed godwit Common scoter Cormorant Curlew Dunlin Eider Golden plover Goldeneye Great crested grebe Grey plover Knot Lapwing Long-tailed duck Mallard Oystercatcher Red-breasted merganser Red-throated diver Redshank Ringed plover Scaup Shelduck Slavonian grebe Turnstone Velvet scoter Wigeon	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.
Firth of Tay and Eden Estuary SPA and Ramsar	Pink-footed goose Greylag goose Bar-tailed godwit Common scoter Cormorant Dunlin Eider Goldeneye Goosander Grey plover Black-tailed godwit Long-tailed duck Oystercatcher Red-breasted merganser Redshank Sanderling Shelduck Velvet scoter	-	Collision	-	LSE cannot be ruled out for collision, based on the potential for these species to pass through the Array Area during migration.
Forth Islands SPA	Gannet Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.

Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
Forth Islands SPA	Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
Handa SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Handa SPA	Great skua	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects on the basis of connectivity and sensitivity of this species.
Handa SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
Hermaness, Saxa Vord and Valla Field SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Hermaness, Saxa Vord and Valla Field SPA	Gannet Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Hermaness, Saxa Vord and Valla Field SPA	Great skua	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects on the basis of connectivity and sensitivity of this species.
Hermaness, Saxa Vord and Valla Field SPA	Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
St Abbs Head to Fast Castle SPA	Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects, based on connectivity and sensitivity of this species.
North Rona and Sula Sgeir SPA	Gannet Kittiwake	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
North Rona and Sula Sgeir SPA	Puffin	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects Entanglement	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects, entanglement and prey effects on basis of connectivity and sensitivity of this species.
North Rona and Sula Sgeir SPA	European storm petrel Leach's storm petrel	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on basis of connectivity and sensitivity of this species.

Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
Shaint Isles SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Flannan Isles SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Flannan Isles SPA	Leach's storm petrel	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Seas off St Kilda SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Seas off St Kilda SPA	Gannet	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Rum SPA	Manx shearwater	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
St Kilda SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
St Kilda SPA	Gannet	Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
St Kilda SPA	Leach's storm petrel	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
St Kilda SPA	Great skua	Impact to prey effects	Collision Impact to prey effects	Impact to prey effects	LSE cannot be ruled out for collision and prey effects on the basis of connectivity and sensitivity of this species.
Flamborough and Filey Coast SPA	Gannet	Disturbance and displacement Impact to prey effects	Collision Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for collision, disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Mingulay and Berneray SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Horn Head to Fanad Head SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Tory Island SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
West Donegal Coast SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species. .
Seevogelschutzgebiet Helgoland SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Inishmurray SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Irish Sea Front SPA	Manx shearwater	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species. disturbance and displacement, barrier effects, accidental pollution and prey effects on the basis of connectivity and sensitivity of this species.
Clare Island SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species. .

Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
Lambay Island SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
High Island, Inishshark and Davillaun SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Cruagh Island SPA	Manx shearwater	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species. disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Illaunnaon SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Wicklow Head SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Glannau Aberdaron ac Ynys Enlli / Aberdaron Coast and Bardsey Island SPA	Manx shearwater	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Inishmore SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Littoral seino-marin SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Cliffs of Moher SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Illaunonearaun SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Loop Head SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Kerry Head SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Magharee Islands SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Dingle Peninsula SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Saltee Islands SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Saltee Islands SPA	Manx shearwater	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	The potential for LSE has been identified for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Blasket Islands SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Blasket Islands SPA	Manx shearwater	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Skomer, Skokholm and the Seas off Pembrokeshire SPA	Manx shearwater	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Iveragh Peninsula SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Puffin Island SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Puffin Island SPA	Manx shearwater	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects Impact to prey effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.
Falaise du Bessin Occidental SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Deenish Island and Scariff Island SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Deenish Island and Scariff Island SPA	Manx shearwater	Disturbance and displacement Impact to prey effects	Disturbance and displacement Barrier effects	Disturbance and displacement Impact to prey effects	LSE cannot be ruled out for disturbance and displacement, barrier effects and prey effects on the basis of connectivity and sensitivity of this species.

Summary of Sites and Features Screened in for further Assessment i.e. where no LSE could not be concluded.					
Designated site	Feature	Impact pathways per Project Stage			LSE Conclusion
		Construction	O&M	Decommissioning	
			Impact to prey effects		
Helvick Head to Ballyquin SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Beara Peninsula SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Sheep's Head to Toe Head SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Old Head of Kinsale SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.
Galley Head to Duneen Point SPA	Fulmar	Impact to prey effects			LSE cannot be ruled out for changes to prey on basis of connectivity and sensitivity of this species.