Malin Head Offshore Wind Farm

Foreshore Licence Application for Site Investigation Works

Supporting Information for Screening of Appropriate Assessment

Document Control

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List of Abbreviations

AA	Appropriate Assessment
ADCP	Acoustic Doppler Current Profiler
AIS	Automatic Identification System
API	American Petroleum Institute
BH	Borehole
CPOD	Cetacean Passive Acoustic Network
CPT	Cone Penetration Test
DAHG	Department of Arts, Heritage and the Gaeltacht
DEHLG	Department of Environment, Heritage and Local Government
DHPLG	Department of Housing, Planning and Local Government
DHLGH	Department of Housing, Local Government and Heritage
DTTAS	Department of Transport, Tourism and Sport
EC	European Commission
EIAR	Environmental Impact Assessment Report
EMODnet	The European Marine Observation and Data Network
EPA	Environmental Protection Agency
EPS	European Protected Species
EU	European Union
FCS	Favourable Conservation Status
GSI	Geological Survey of Ireland
IMO	International Maritime Organization
INFOMAR	Integrated Mapping for the Sustainable Development of Ireland's Marine Resource
IROPI	Imperative Reasons of Overriding Public Interest
ISO	International Organization for Standardization
IWDDS	Interactive Web Data Delivery System
JNCC	Joint Nature Conservation Committee
LiDAR	Light Detection and Ranging
MARPOL	The International Convention for the Prevention of Pollution from Ships
MBES	Multibeam echosounder
MI	Marine Institute
MAP	Maritime Area Planning
MU	Management Unit
NIS	Natura Impact Statement
NM	Nautical Mile
NMS	National Monuments Database
NPWS	National Parks and Wildlife Service
NRW	Natural Resources Wales
OWF	Offshore Wind Farm
PTS	Permanent Threshold Shift
QI	Qualifying Interests
SAC	Special Areas of Conservation
SCI	Special Conservation Interest
SPA	Special Protection Areas
SPL	Sound Pressure Level

SSS	Side Scan Sonar
TTS	Temporary Threshold Shift
UK	United Kingdom
UXO	Unexploded Ordnance
VC	Vibrocore
WWTP	Wastewater Treatment Plant

Glossary of Terms

Acoustic Doppler Current Profiler (ADCP)	An Acoustic Doppler Current Profiler is a hydroacoustic current meter similar to a sonar, used to measure water current velocities over a depth range using the Doppler effect of sound waves scattered back from particles within the water column.
Appropriate Assessment (AA)	An Appropriate Assessment (AA) is an assessment of the potential adverse effects of a plan or project (in combination with other plans or projects) on Special Areas of Conservation and Special Protection Areas. These Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are protected by both National and European Law.
Aquaculture Sites	Aquaculture sites include shellfish, finfish and seaweed production areas as monitored for licensing purposes.
Array Investigation Area	Area where site investigations will take place to determine the suitability of that area as an offshore wind farm
Benthic Ecology	Benthic ecology is the study of organisms that make up bottom communities (sediments, seagrass communities and rock outcrops) in lakes, streams, estuaries and oceans, to determine environmental health and conduct environmental appraisals.
Coastal Lagoons	Lagoons are expanses of coastal salt water, of varying salinity, which are wholly or partially separated from the sea by sand banks or shingle, or less frequently, by rocks.
Designated Shellfish Waters	Designated Shellfish Waters under the European Union Shellfish Waters Directive are sites designed to protect the aquatic habitat of bivalve and gastropod molluscs, including oysters, mussels, cockles, scallops and clams.
Dredge Fishing	A fishing dredge, also known as a scallop dredge or oyster dredge, is type of fishing gear which is towed along the bottom of the sea by a fishing boat in order to collect a targeted bottom-dwelling species.
Drift Lines	Drift lines occur on sandy or shingle substrate at the upper part of the strand, around the high tide mark. Water-borne material including organic matter is deposited on the shore and provides nutrients and a seed source for vegetation.
Ecology	Ecology is a branch of biology concerning the spatial and temporal patterns of the distribution and abundance of organisms, including the causes and consequences.
Environmental Receptors	Environmental receptors are any organism, habitat or natural resource which could be adversely affected by an activity.
Estuaries	Estuaries are coastal inlets with a significant freshwater influence. They are diverse, dynamic habitats that help maintain the health of coastal ecosystems. They are a significant resource for bird and mammal species for feeding, breeding, and resting, and depending on their geomorphology and hydrology support a mosaic of other habitats, including Annex I habitats such as mudflats.

Favourable Conservation Status	The EU Habitats Directive requires EU Member States to achieve FCS of natural habitats and species, defined with respect to species by Article 1 (i) of the Directive as below: "conservation status will be taken as 'favourable' when: population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis."
Fish Nursery Grounds	Nursery grounds are habitats that enhance the growth and survival of juvenile fish.
Fish Spawning Grounds	Spawning grounds are areas where fish congregate to lay and fertilise their eggs.
Foreshore	The foreshore of Ireland is classed as the land and seabed between the high water of ordinary or medium tides (shown HWM on Ordnance Survey maps) and the twelve-mile limit (12nm = 22.224km). The foreshore also covers the tidal reaches of rivers.
Foreshore Licence Application Area	Within this report: The area within the 12nm limit of the high-water mark of ordinary tides for which a Foreshore Licence Application is submitted to the Department of Housing, Local Government and Heritage for a licence under Section 3 of the Foreshore Act to undertake site investigation activities.
Geophysical Surveys	Geophysical surveys are ground-based physical sensing techniques that produce a detail image or map of an area. Ground-based surveys may include: Seismic surveys - vibrations are recorded with geophones to provide information about the properties of rocks.
Geotechnical investigation and evaluation	Geotechnical investigation and evaluation include methods to acquire and evaluate subsurface information, including drilling and sampling, laboratory testing, cone penetration testing, and pressure meter testing.
Grab Samples	A grab sample is a sample of sediment taken from the seabed.
LiDAR	LiDAR is a method for measuring distances by illuminating the target with laser light and measuring the reflection with a sensor. Differences in laser return times and wavelengths can then be used to make digital 3-D representations of the target. It has terrestrial, airborne, and mobile applications.
Magnetometer	A magnetometer is a device that measures magnetism—the direction, strength, or relative change of a magnetic field at a particular location.
MARPOL	MARPOL is the main international convention aimed at the prevention of pollution from ships caused by operational or accidental causes. It was adopted at the International Maritime Organization (IMO) in 1973. The Protocol of 1978 was adopted in response to a number of tanker accidents in 1976–1977.
Metocean	Metocean conditions refer to the combined wind, wave, and climate conditions as found on a certain location. They are most often presented as statistics, including seasonal variations, scatter tables, wind roses and probability of exceedance.

Mudflats	Tidal mudflat habitat is comprised of the intertidal section of the coastline where muds dominate.
Multibeam Echosounder (MBES)	An echosounder uses sound waves to measure water depth. A transducer mounted under a vessel emits a pulse which travels through the water to the seafloor and bounces back to a receiver. The time it takes for the signal to return is measured, and because the speed of sound through water) is known, the water depth under the boat is measured. This is the basic principle of hydrography and seafloor mapping. A multibeam echosounder (MBES) measures multiple echoes at a time.
Natura Impact Statement	A Natura Impact Statement (NIS) is the statement prepared following Appropriate Assessment (AA) of Natura 2000 sites as required under the EU Habitats Directive which presents information on the assessment and the process of collating data on a project and its potential significant impacts on Natura 2000 site(s).
Pollution Event	A 'pollution incident' includes a leak, spill or escape of a substance, or circumstances in which this is likely to occur.
Pot Fishing	Pots and traps are used in commercial fishing to catch crustaceans such as lobster, crab, and shrimp.
Cable Investigation Area	Area where site investigations will take place to determine the suitability of that area as a route for the export electricity cable from the wind farm to land.
Foreshore Licence Application Area	Area for which an application for a Foreshore Licence under Section 3 of the Foreshore Act 1933, as amended is sought to undertake site investigations to determine its suitability for both the offshore wind farm and the route for the export cable from the wind farm to shore.
Receiving Environment	The receiving environment is the environment upon which a proposed activity might have effects.
Reefs	Reefs are marine features with hard substrate available for colonisation by plants and animals. In Irish waters they range from the intertidal to depths of 4,500m and more than 400km from the coast.
Sandbanks	Sandbanks are distinct banks that arise from horizontal or sloping plains of sediment that ranges from gravel to fine sand. They are primarily composed of sandy sediments permanently covered by water, at depths of less than 20m below chart datum.
Sandflats	Tidal sandflat habitat is comprised of the intertidal section of the coastline where sands dominate.
Side Scan Sonar (SSS)	Side-scan uses a sonar device that emits conical or fan-shaped pulses down toward the seafloor across a wide-angle perpendicular to the path of the sensor through the water, which may be towed from a surface vessel or submarine or mounted on the ship's hull.
Special Areas of Conservation (SAC)	These are prime wildlife conservation areas considered to be important on a European as well as national level. The EU Habitats Directive lists certain habitats and species that must be protected within SACs.
Special Protection Areas (SPA)	Ireland is required under the terms of the EU Birds Directive (2009/147/EC) to designate Special Protection Areas (SPAs) for the protection of: Listed

	rare and vulnerable species; regularly occurring migratory species and wetlands, especially those of international importance.
Sub-Bottom Profiler	A sub-bottom profiler is a type of sonar system that produces a 2-dimensional stratigraphic cross section by using acoustic energy to image sub-surface features in an aquatic environment.
Sea Cliffs	A sea cliff is a steep or vertical slope located on the coast, the base of which is in either the intertidal or subtidal zone. Hard cliffs, composed of hard rock such as basalt, are at least 5m high, while soft cliffs, composed of softer substrates such as shale or boulder clay, are at least 3m high.
Vibrocore	Vibrocoring is a sediment sampling methodology for retrieving continuous, undisturbed cores. Vibrocorers can work in a variety of water depths and can retrieve core samples at different lengths depending on sediment lithology and project objectives.
Water Courses	Natural or artificial channels through which water flows.
Wave Buoy	Wave buoys are used to measure the movement of the water surface as a wave train. The wave train is analysed to determine wave characteristics such as the significant wave height and period, and wave direction.

1 Executive Summary

This SISAA report aims to support the application process and provide the necessary information to the competent authorities to assist in making an informed decision on the likely impact of the proposed project on the receiving environment of the surrounding area, which includes the Special Areas of Conservation, Special Protection Areas and their designated Annex I and Annex II Habitats and species.

The significant effects of the designated marine mammals, including the Otter, Bottlenose Dolphin, Harbour Porpoise, and Harbour and Grey Seal features of Natura 2000 sites were identified for further assessment where the impacts from underwater noise from SBP and drilling could not be determined as unlikely. Therefore, these species were considered and assessed further in a Natura Impact Statement that accompanies this document within the Foreshore Licence Application.

No other impacts are predicted on the habitats or species that were examined in the initial screening process as a result of the site investigation activities. There will be no other direct or indirect impacts on the qualifying interests or conservation objectives of the additional Natura sites identified and these are not considered for further Stage 2 Appropriate Assessment and not considered further in a Natura Impact Statement.

2 Introduction

Malin Array Limited have commissioned this report in support of an application for a Site Investigation Licence under Section 3 of the Foreshore Act, as amended, to carry out site investigation works to determine the suitability of the site for a wind farm development.

Malin Array Limited intends to undertake marine surveys at the proposed site to inform the location and design of the proposed offshore wind farm. The marine surveys will include geophysical, geotechnical, environmental and metocean marine surveys.

2.1 Aim of This Report

This report is part of the Foreshore Licence Application to the Foreshore Unit of the Department of Housing, Planning and Local Government and includes information in Support of Screening for Appropriate Assessment and forms part of the Appropriate Assessment process as required under the Habitats Directive (92/43/EEC).

This report aims to support the application process and provide the necessary information to the competent authorities to assist them in making an informed decision on the likely impact of this project on the receiving environment including the likely impact on Special Protection Areas, Special Areas of Conservation and their designated Annex I and Annex II species.

2.2 Structure of the Report

This report is structured into the following chapters to include information relating to the receiving environment, Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Qualifying Interests (QIs), the potential impacts and Appropriate Assessment (AA) process and other environmental receptors. Specifically, the chapters of this report are as follows:

- Chapter 1: Executive Summary
- Chapter 2: Introduction (This chapter)
- Chapter 3: Habitats Directive (92/43/EEC) (outlines key aspects of the process)
- Chapter 4: Identification of potential impacts of proposed site investigation activities
- Chapter 5: Description of Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and their Qualifying Interests (QIs) considered relevant to the potential impacts identified in Chapter 4
- Chapter 6: Information in Support of Appropriate Assessment Screening (Stage 1 Screening)
- Chapter 7: Reference to Stage 2 Natura Impact Statement found in accompanying document Malin Head OWF Natura Impact Statement (NIS)

2.3 Foreshore License Application Area

The Foreshore License Application Area is situated off the coast of county Donegal (Figure 2-1).

Malin Array Limited acknowledges that it is only possible at this time to obtain a Site Investigation Licence for that area situated within the 12nm boundary. Malin Array Limited is not proposing at this

time to undertake any intrusive surveys outside the 12nm limit regulated under the Foreshore Act 1933, as amended.

This Foreshore Licence Application seeks consent to conduct site investigation activities within the 12nm boundary to establish the potential for offshore wind farm development off the coast of County Donegal. If the Foreshore Licence Application Area investigation activities, together with desktop studies and stakeholder engagement, indicates the feasibility of developing a wind farm, the project will be progressed at that point in accordance with the National Marine Planning Framework and other relevant legislation including the new consenting regime for offshore renewable energy being legislated for through the Maritime Area Planning Act 2021 (MAPA).

The Foreshore Licence Application Area is situated north of Malin Head, in the Atlantic Sea off the coast of County Donegal, and it measures approximately 835.25 km^2 in total. This report addresses the Offshore Export Cable Corridor (OECC) Area, measuring approximately 225.22 km^2 and the Offshore Windfarm (OWF) Area, measuring approximately 610.03 km^2. The north/north-eastern boundary of the Foreshore Licence Application Area is adjoined by the 12 NM boundary. The OWF area is, at its closest point, 11.14 km from shore at Carrickaveol headland, approximately 9 km from Malin Head. The OECC Area extends to the mean high-water mark at 6 locations along the Donegal coastline at Pollan Strand, Tullagh strand, Buncrana beach, Kinnegar beach, Ballymastocker beach and Portsalon.

The Foreshore Licence Application Area, OWF Area within the 12nm boundary and OECC Area are shown inFigure 2-1. The coordinates of the Foreshore Licence Application Area are provided in the Foreshore License Application Form and Schedule of Works submitted as part of this Foreshore License Application.

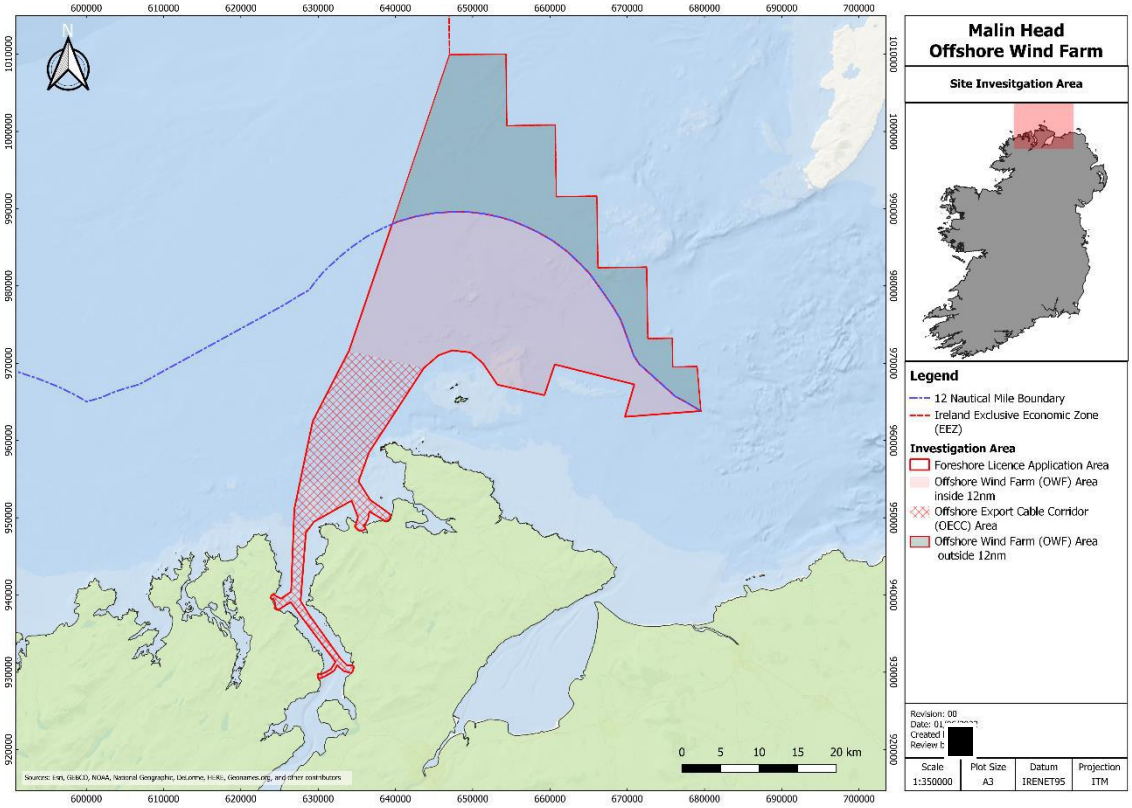

Figure 2-1 Malin Head OWF and OECC Area (red, OECC area hatched) including the OWF Area outside 12 nm (grey) for information. Note Foreshore Licence Application Area is all within 12 nm.

2.4 Site investigation activities

The objective of the proposed Malin Head OWF survey campaign is to determine environmental conditions and seafloor and subsurface geological characteristics within the Foreshore Licence Application Area.

The proposed programme of site investigations to be undertaken within the Foreshore Licence Application Area is discussed in detail in the Schedule of Works document accompanying this Application. Indicative direct sampling (i.e. seafloor contacting) Site Investigation locations are shown in Figure 2-2. Note seafloor-contacting Site Investigation location distribution across the OWF area will be informed by geophysical data. OECC Site Investigation locations will be distributed every 1km along the proposed OECC route.

The exact technical specifications of the equipment to be used will not be known until the survey contract has been awarded. However, a description of the typical equipment and survey parameters is described in the Schedule of Works document accompanying this Application.

All efforts will be made to follow survey recommendations outlined in the Guidance on Marine Baseline Ecological Assessments & Monitoring Activities for Offshore Renewable Energy Projects Part 1 and 2 (DCCAE, April 2018), where the specific timeframes are indicated for the survey provision.

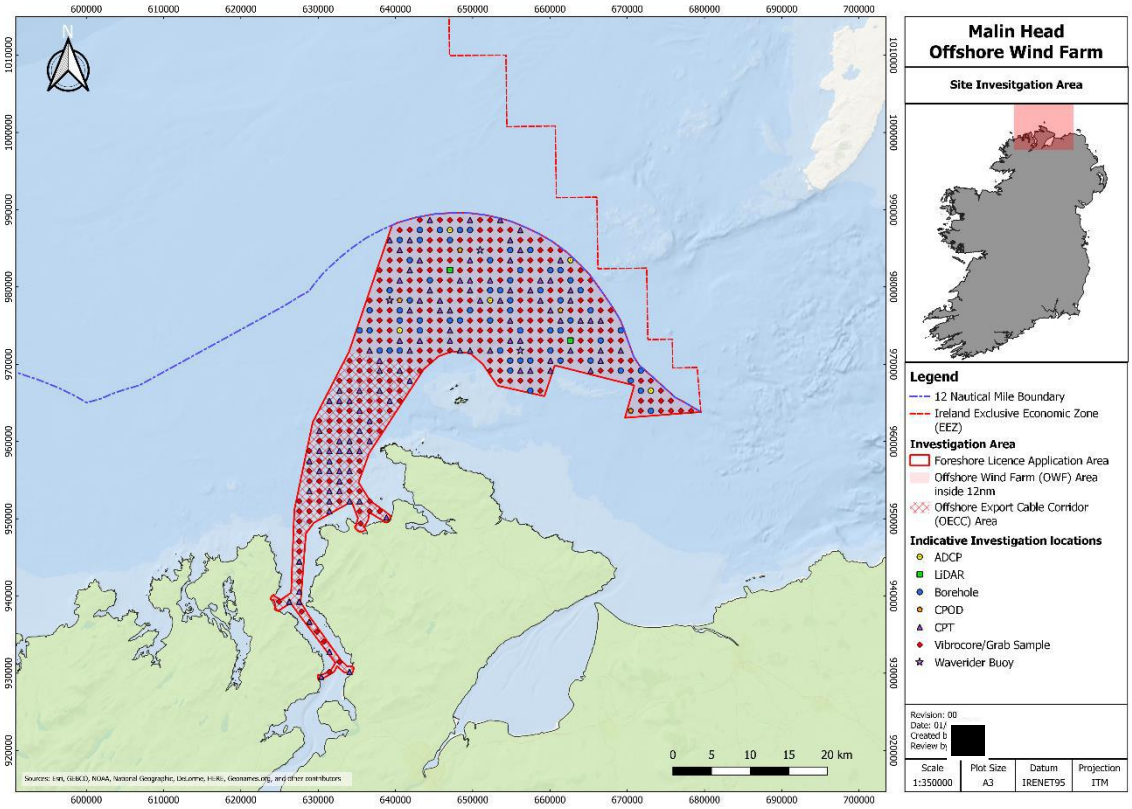

Figure 2-2 Indicative site investigation locations

2.5 Survey Schedule

Subject to the award of a Foreshore Licence, as well as favourable weather conditions, Malin Array Limited propose a site investigation activities schedule that will be phased over a total of 5 years.

As well as the uncertainty associated with the timing for obtaining a Foreshore Licence, it is not possible at the time of writing to provide exact details on the proposed survey schedule. However, the intention is to begin survey activities as soon as feasible following award of the Foreshore Licence, possibly in Spring of 2023 with a staged programme of investigations over the subsequent four years (2024, 2025, 2026, 2027), capitalising on suitable weather windows over the total period of five years. This phased approach will progress the overall development towards detailed design stage. Procurement of survey contractors will be undertaken to ensure that suitable weather windows can be utilised as soon as possible following licence award. The exact survey mobilisation dates will be known at that point in the process. For further details on the proposed site investigation activities please see the Schedule of Works document that has been provided in support of the Application.

3 Habitats Directive (92/43/EEC)

The purpose of this report is to inform the Appropriate Assessment process as required under the Habitats Directive (92/43/EEC). The Appropriate Assessment Screening contained in Section 5 of this report will determine whether the proposed surveys, both alone and in combination with other planned activities under the remit of this project and others, are likely to have a significant effect on any Natura 2000 or its qualifying interests. This document includes Stage 1 of the Appropriate Assessment process. For Stage 2 Natura Impact Statement see accompanying Malin Head OWF NIS.

This report has been prepared in accordance with the following guidance:

1 Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (Department of Environment, Heritage and Local Government, 2010 revision)
2 Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10
3 Guidance to Manage the Risk to Marine Mammals from Manmade Sound Sources in Irish Waters. Prepared by National Parks and Wildlife Service, DAHG (2014).
4 Guidelines for Good Practice: Appropriate Assessment of Plans under Article 6(3) Habitats Directive (International Workshop on Assessment of Plans under the Habitats Directive, 2011);
5 Marine Natura Impact Statements in Irish Special Areas of Conservation: A working document. Prepared by National Parks and Wildlife Service, DAHG (2012).
6 Managing Natura 2000 Sites - The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (European Commission - 21 November 2018)
7 Office of the Planning Regulator – Practice Note 01 – PN01 (March 2021)

3.1 Legislative Background

The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) adopted in 1992, transposed into Irish Law in 1997 and subsequently amended and consolidated aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. It provides a framework for the legal protection to ensure the conservation of a wide range of rare, threatened, or endemic animal and plant species throughout the European Union. The Birds Directive (Conservation of Wild Birds Directive (79/409/EEC) aims to protect all of the 500 wild bird species naturally occurring in the European Union. The Habitats Directive, along with the Birds Directive forms the cornerstone of Europe's nature conservation policy. Together they form a coherent network of protected areas (Special Areas of Conservation and Special Protection Areas), called Natura 2000, safeguarded against potentially damaging developments.

The requirement for "Appropriate Assessment" is set out in Articles 6(3) and 6(4) of the Habitats Directive (92/43/EEC). If a project is likely to have a significant effect on a Natura 2000 site, either alone or in combination with other plans or projects, it must undergo an appropriate assessment (AA). According to Article 6(3) of the Habitats Directive:

"Any plan or project not directly connected with or necessary to the management of the site (Natura 2000 site) but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the site's conservation objectives"

In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only having ascertained that it will not adversely affect the integrity of the site concerned and if appropriate, after having obtained the opinion of the general public.

Article 6(4) states: "If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

3.2 The Appropriate Assessment Process

The European Commission's methodological guidance (EC, 2002) promotes a four-stage process to complete the AA and outlines the issues and tests at each stage (Figure 3-1). An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required. The four stages are summarised diagrammatically below, and the steps and procedures involved in completing each stage follows. Stages 1-2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of Article 6(3) or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

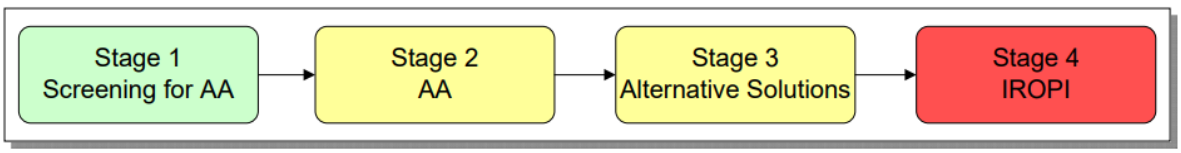

Figure 3-1: Stages in the AA process (Source: DEHLG, 2009)

Stage 1. Screening for Appropriate Assessment

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

i. whether a plan or project is directly connected to or necessary for the management of the site, and

ii. whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

Stage 2. Appropriate Assessment

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a Natura 2000 site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement, i.e. the report of a targeted professional scientific examination of the plan or project and the relevant Natura 2000 sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in combination effects. This should provide information to enable the competent authority to carry out the appropriate assessment. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 4, or the plan or project should be abandoned. The AA is carried out by the competent authority and is supported by the NIS.

Stage 3. Alternative Solutions:

This stage examines any alternative solutions or options that could enable the plan or project to proceed without adverse effects on the integrity of a Natura 2000 site. The process must return to Stage 2 as alternatives will require appropriate assessment in order to proceed. Demonstrating that all reasonable alternatives have been considered and assessed, and that the least damaging option has been selected, is necessary to progress to Stage 4.

Stage 4. Imperative Reasons of Overriding Public Interest (IROPI)/Derogation

Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. The extra protection measures for Annex I priority habitats come into effect when making the IROPI case. Compensatory measures must be proposed and assessed. The Commission must be informed of the compensatory measures. Compensatory measures must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the Minister for Housing, Planning and Local Government.

3.3 Methodology for the preparation of this report

This document includes information to support Stages 1 of the Appropriate Assessment process, as detailed in section 2.2 above, and has been prepared in accordance with the guidance numbered 1 to 10 in the first paragraphs of section 2 above.

As the proposed works are not directly connected to or necessary for the management of a Natura 2000 site, this document focuses on assessing whether the works, alone or in combination with other plans and projects, are likely to have significant effects on any Natura 2000 site in view of its conservation objectives.

This report has been informed by a review of the publicly available datasets and the available literature that allowed the characterisation of the receiving environment and supported the identification and assessment of potential impacts and their significance. The sources of the information used are cited throughout the report and listed in the References section.

The examination, analysis and evaluation of the relevant information that supported the Appropriate Assessment process conducted and documented in this report followed the precautionary principle throughout.

The report methodology followed the steps below, corresponding to the chapters which constitute the structure of the report:

- Description of the proposed project (see chapter 1)
- Description of legislative background, of the Appropriate Assessment process and Methodology for the preparation of the report (this chapter)
- Identification and description of the potential direct and indirect effects on the Natura 2000 sites (see chapter 3)
- Identification of the relevant Natura 2000 sites and their Qualifying Interests (QIs), and their AA Screening (Stage 1) against the identified potential impacts (see chapter 4 and 5)
- Natura Impact Statement (Stage 2) is presented in the accompanying document Malin Head OWF NIS.

This report has been prepared by [redacted] BSc. Hons Earth Science, MSc., Coastal and Marine Environments: Physical Processes, Policy and Practice. [redacted] is an environmental scientist with experience of offshore survey practices and has additional experience with coastal dune monitoring assessment surveys. The report was reviewed by [redacted] BSc. (Hons) Biology, MSc. Applied Science (75% Environmental Science, 25% Civil Engineering), and who is a Chartered Environmentalist. [redacted] is an experienced professional within the offshore wind sector, who previously held scientific and regulatory roles within the Scottish Government Directorate of Marine Scotland. He has undertaken multiple environmental assessments under both the Habitats and Environmental Impact Assessment Directives as a regulator with Marine Scotland and for multiple applicants for licences in Ireland under the Foreshore Act 1933, as amended.

4 Potential Environmental Impacts of proposed activities

The potential direct and indirect environmental impacts identified for appraisal are set out in Table 4.1 and described below, given the site investigation activities proposed (note the proposed activities are summarised in Section 2.4 and described in the Schedule of Works document submitted as part of this Foreshore Licence Application).

All impacts listed in Table 4.1 are considered relevant for the proposed activities. Information about these impacts is provided in Sections 4.1 to 4.5.

Table 4-1 Potential direct and indirect environmental impacts of activities identified for appraisal

Impact	Direct/Indirect
Physical disturbance to marine benthic communities	Direct
Disturbance from vibration and underwater noise associated with surveys	Direct
Injury due to collision (survey vessels/sampling equipment)	Indirect
Visual and noise disturbance for bird species	Indirect
Pollution event	Indirect

4.1 Physical Disturbance to Marine Benthic Communities

Physical disturbance to marine benthic communities in the footprint of site investigation activities may result in:

- Habitat disturbance and smothering
- Increased suspension of solids in water column
- Vibration (from geo-technical equipment)
- Sediment penetration and some substratum loss

4.2 Disturbance from Vibration and Underwater Noise Associated with Surveys

The physical presence of the survey vessel and the site investigation activities may introduce vibration and noise to the underwater environment.

4.3 Injury Due to Collision (Survey Vessels/Sampling Equipment)

There is a risk of collision between marine mammals and survey vessels which may cause injury to marine mammals.

4.4 Physical and Noise Disturbance to Bird Species

The physical presence and noise of the survey vessels and activities may cause displacement and/or other behavioural responses in birds, including during the breeding season.

4.5 Pollution Event

Benthic habitats and seabirds (in particular diving birds) are considered vulnerable to oil pollution which could come from the survey vessels given the time seabirds spend resting on the water surface, and diving through it in search of food.

5 Identification of relevant European sites

This Chapter outlines the criteria used for defining the Zone of Influence relevant to the potential impacts of the proposed maintenance dredging and beach nourishment works, outlines how European Natura 2000 sites have been identified (i.e. using the Source-Pathway-Receptor model) and describes the sites which have been identified as having the potential to be affected by the proposed works.

The European Natura 2000 site information is based on the most up-to-date data available from the site synopses published by the National Parks and Wildlife Service (NPWS, www.npws.ie).

5.1 Zone of Influence of the Site Investigation Activities

The following SACs and SPAs have been identified as potentially falling within the Zone of Influence of the proposed works:

- Any SAC in the vicinity of the Screening Area designated for Annex I habitats which have the potential to be affected by the proposed works (**Figure 5-1)**.

- Any SAC designated for mobile Annex II species which have the potential to occur within the Screening Area and be affected by the works. Note foraging distances (200 km for grey seals, 20 km for common seals, 12 km alongshore for otter) and/or management units (for harbour porpoise and bottlenose dolphin) have been used to determine relevant sites depending on the Qualifying Interests, or the limits of the management unit. In the absence of information on the distances covered by migrating salmon, twaite shad and allis shad, a precautionary 200 km foraging distance has been applied **(Figures 5-2, 5-3 and 5-4)**.

- Any SPA designated for birds, including SPAs with breeding seabirds listed as species of Qualifying Interest, which have the potential to occur within the Screening Area and be affected by the proposed works **(Figures 5-5 to 5-7).** Note indicative breeding season mean maximum foraging ranges from Woodward *et al*. (2019) have been used to determine relevant sites (Table 5-1), where mean maximum is the maximum range reported in each study averaged across studies. See Appendix I for how a description of how the mean maximum foraging ranges have been used to determine relevant sites and Woodward *et al.* for the criteria used for assigning confidence levels.

Table 5-1 Indicative breeding season foraging ranges and associated confidence levels (Woodward et al. 2019)

Indicative breeding season foraging ranges		
Species	Mean maximum[1] (km ± SD)	Confidence Level[2]
Eider	21.5	Poor
Red-throated diver	9	Low

Indicative breeding season foraging ranges		
Species	Mean maximum[1] (km ± SD)	Confidence Level[2]
Fulmar	542.3 ± 657.9	Good
Manx shearwater	1,346.8 ±,1,018.7	Moderate
European storm petrel	336	Poor
Leach's storm petrel	n/a	Moderate
Gannet	315.2 ± 194.2	Highest
Cormorant	25.6 ± 8.3	Moderate
Shag	13.2 ± 10.5	Highest
Arctic skua	n/a	Poor
Great skua	443.3 ± 487.9	Uncertain
Black-headed gull	18.5	Uncertain
Common gull	50	Poor
Mediterranean gull	20	Uncertain
Herring gull	58.8 ± 26.8	Good
Lesser black-backed gull	127 ± 109	Highest
Kittiwake	156.1 ± 144.5	Good
Sandwich tern	34.3 ± 23.2	Moderate
Roseate tern	12.6 ± 10.6	Moderate
Common tern	18.0 ± 8.9	Good
Arctic tern	25.7 ± 14.8	Good
Little tern	5	Moderate
Guillemot	73.2 ± 80.5	Highest
Razorbill	88.7 ± 75.9	Good
Puffin	137.1 ± 128.3	Good

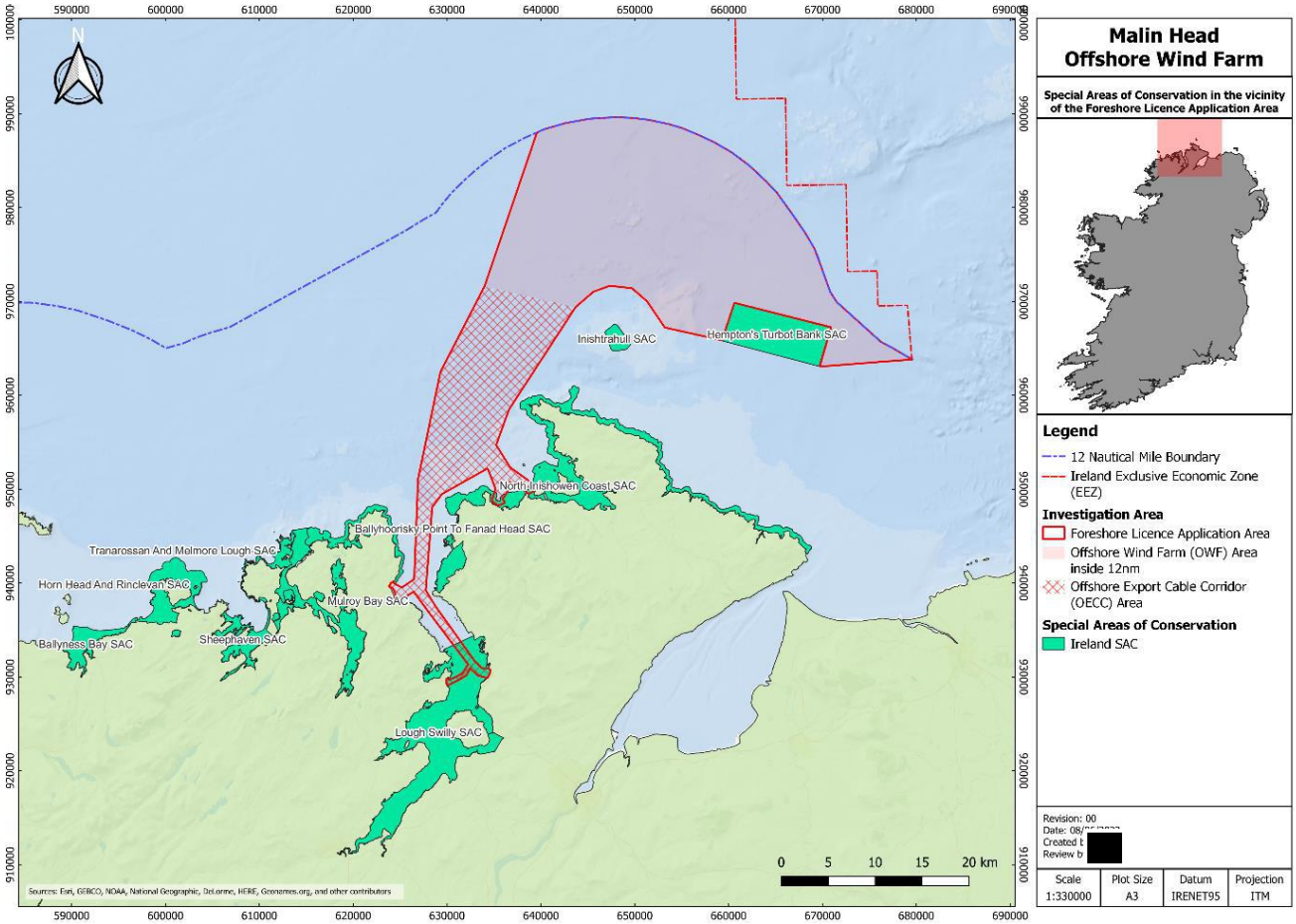

Figure 5-1 SACs designated for Annex I habitats in the vicinity of proposed site investigation activities

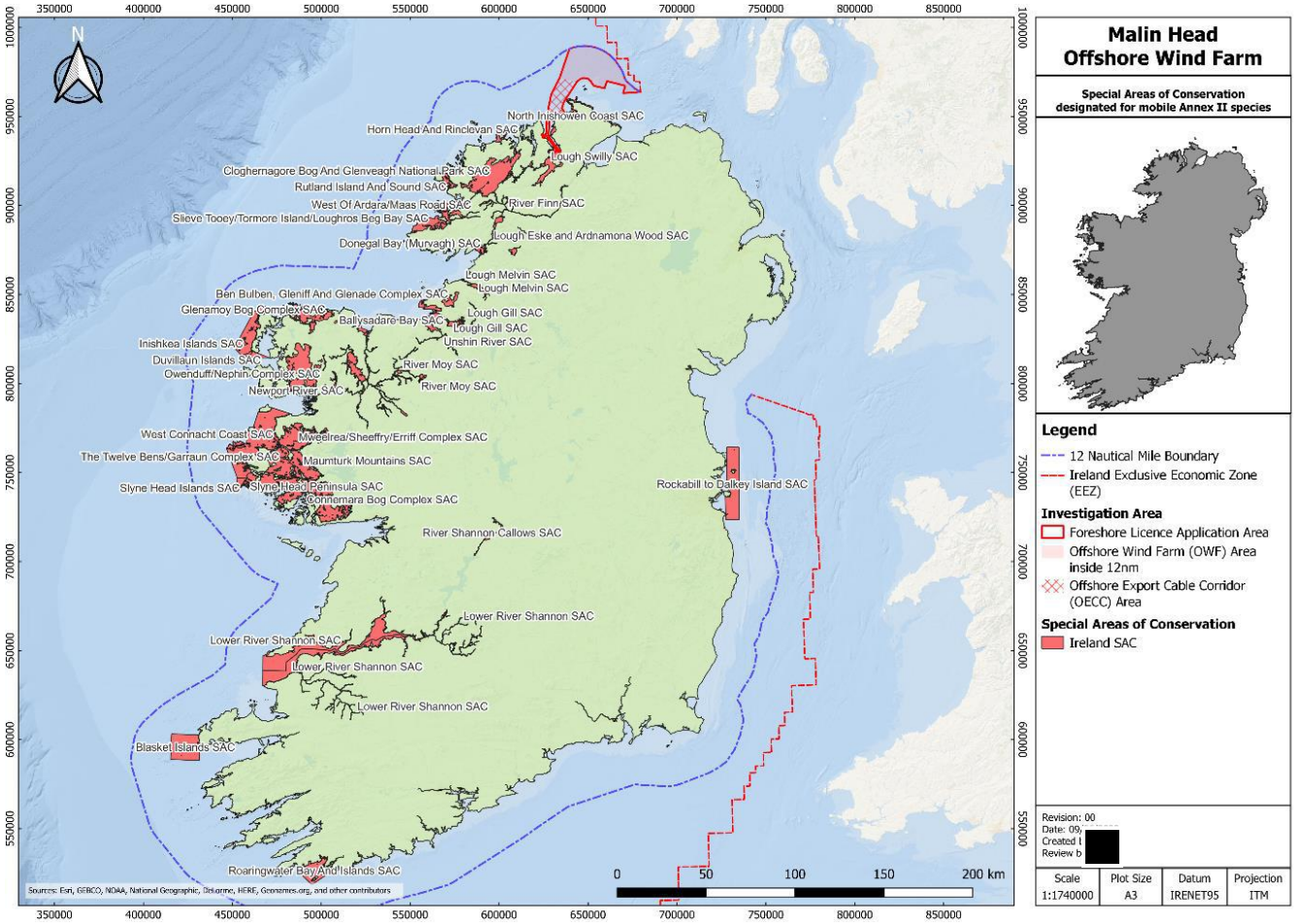

Figure 5-2 Irish SACs designated for Annex II mobile species

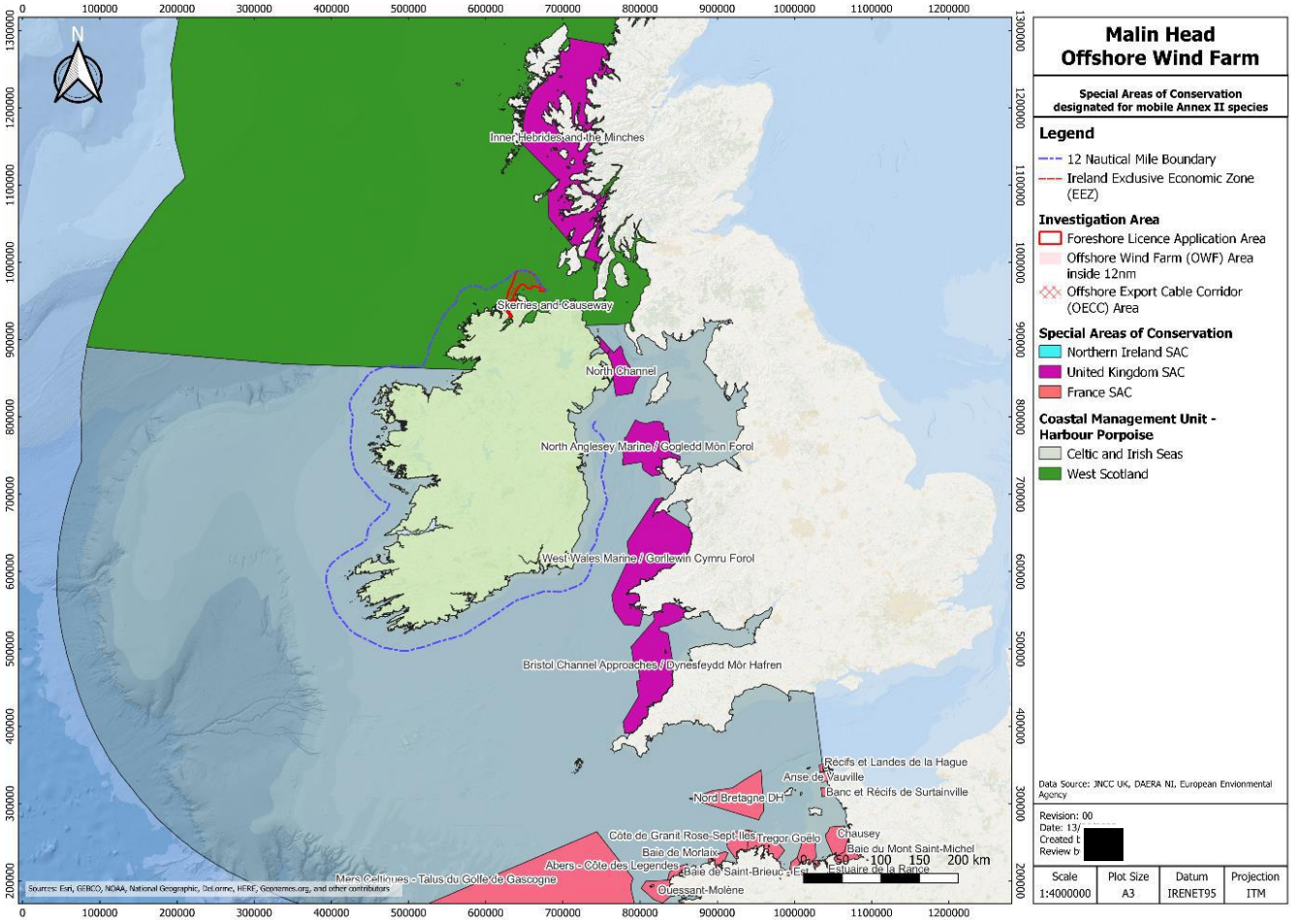

Figure 5-3 Harbour Porpoise Coastal Management Units for Northern Ireland, France, and UK SACs for mobile Annex II species, with the proposed site investigation activities for Malin Head. The FLA area is within the Coastal Management Unit for West Scotland which i

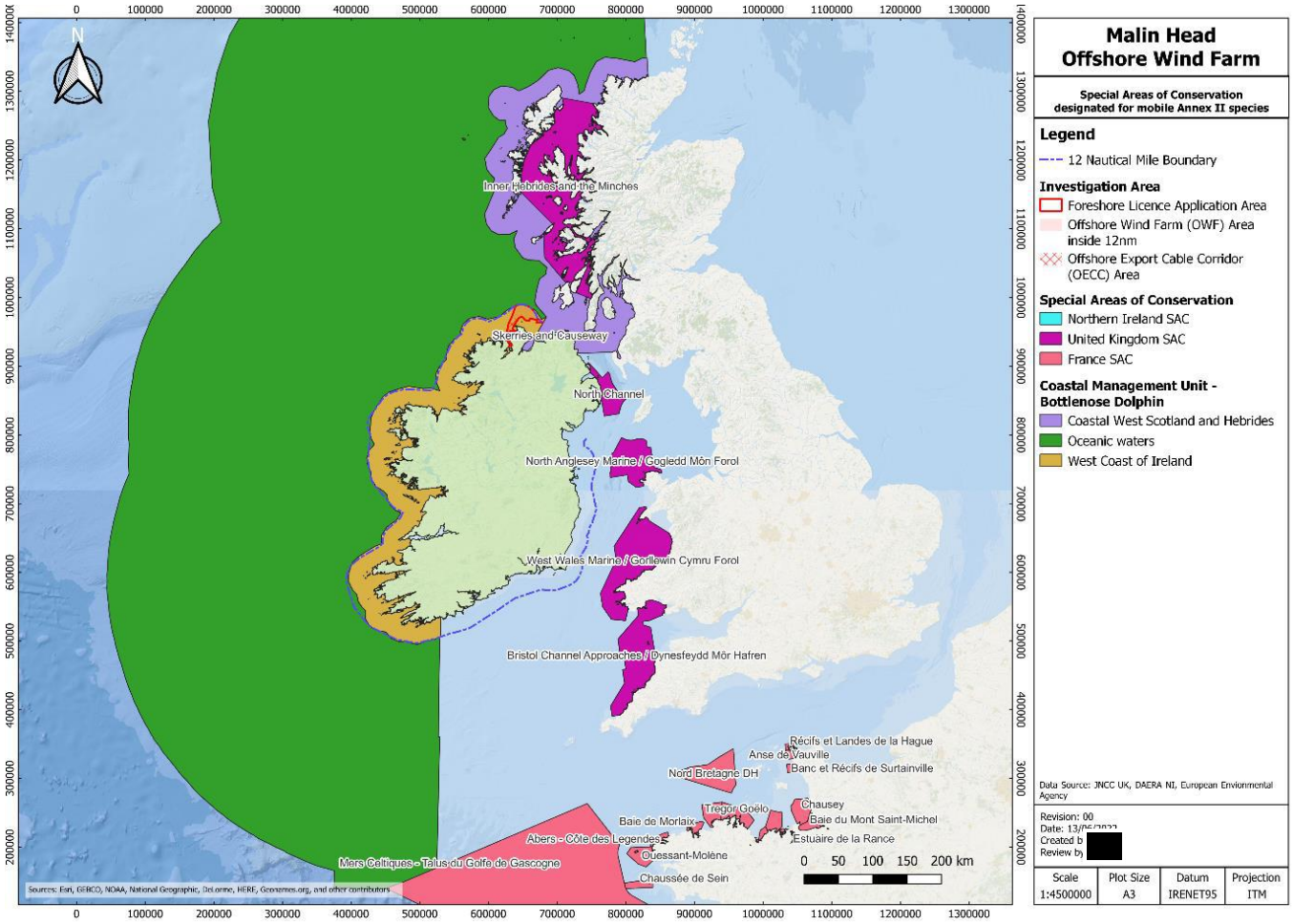

Figure 5-4 Bottlenose Dolphin Coastal Management Units. The site investigation area lies within the west coast of Ireland and the Oceanic waters SAC. The site investigation area lies just outside of the Coastal West Scotland and Hebrides Coastal Management Unit.

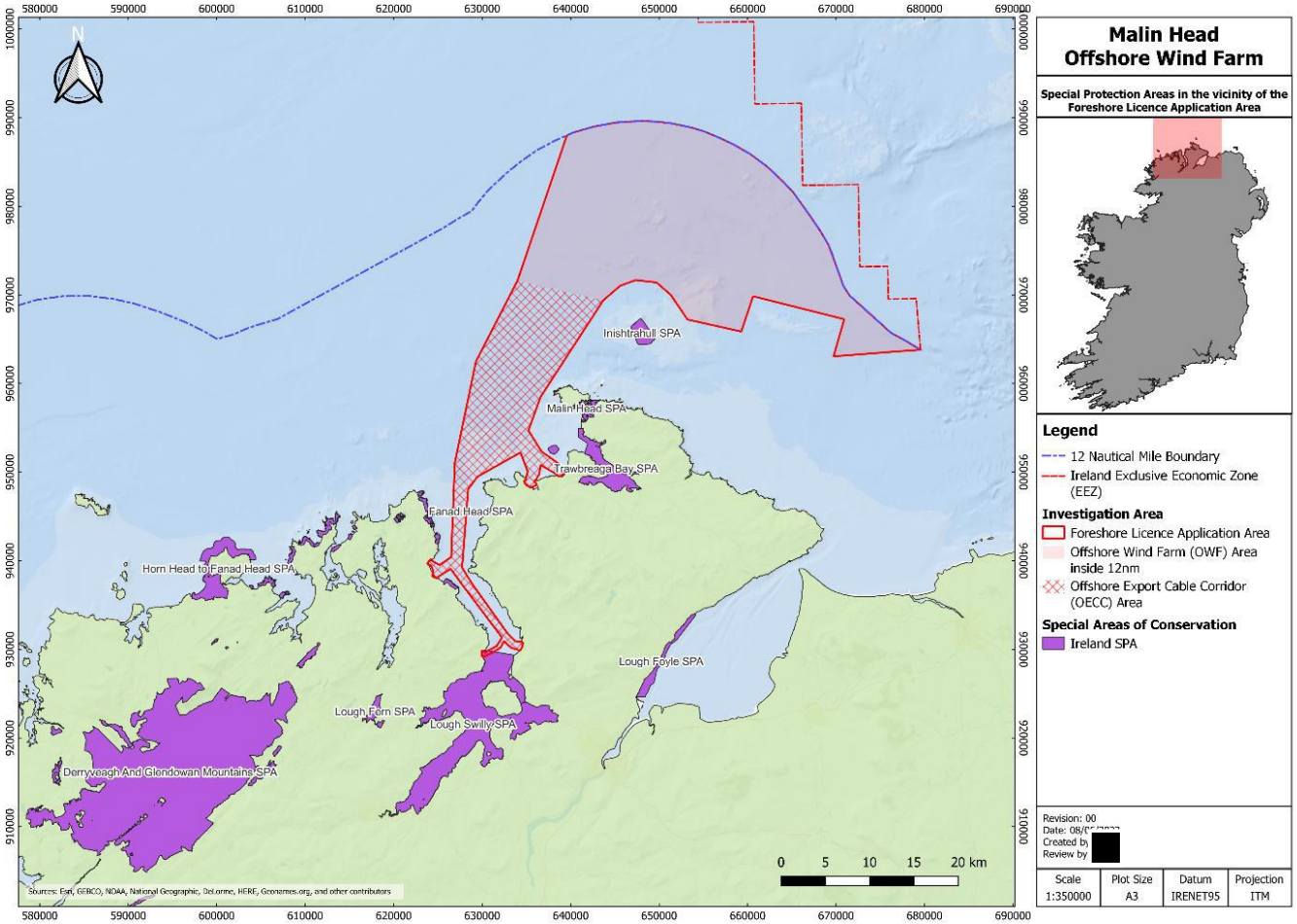

Figure 5-5 Irish SPAs designated for birds potentially in the Zone of Influence of the proposed site investigation activities

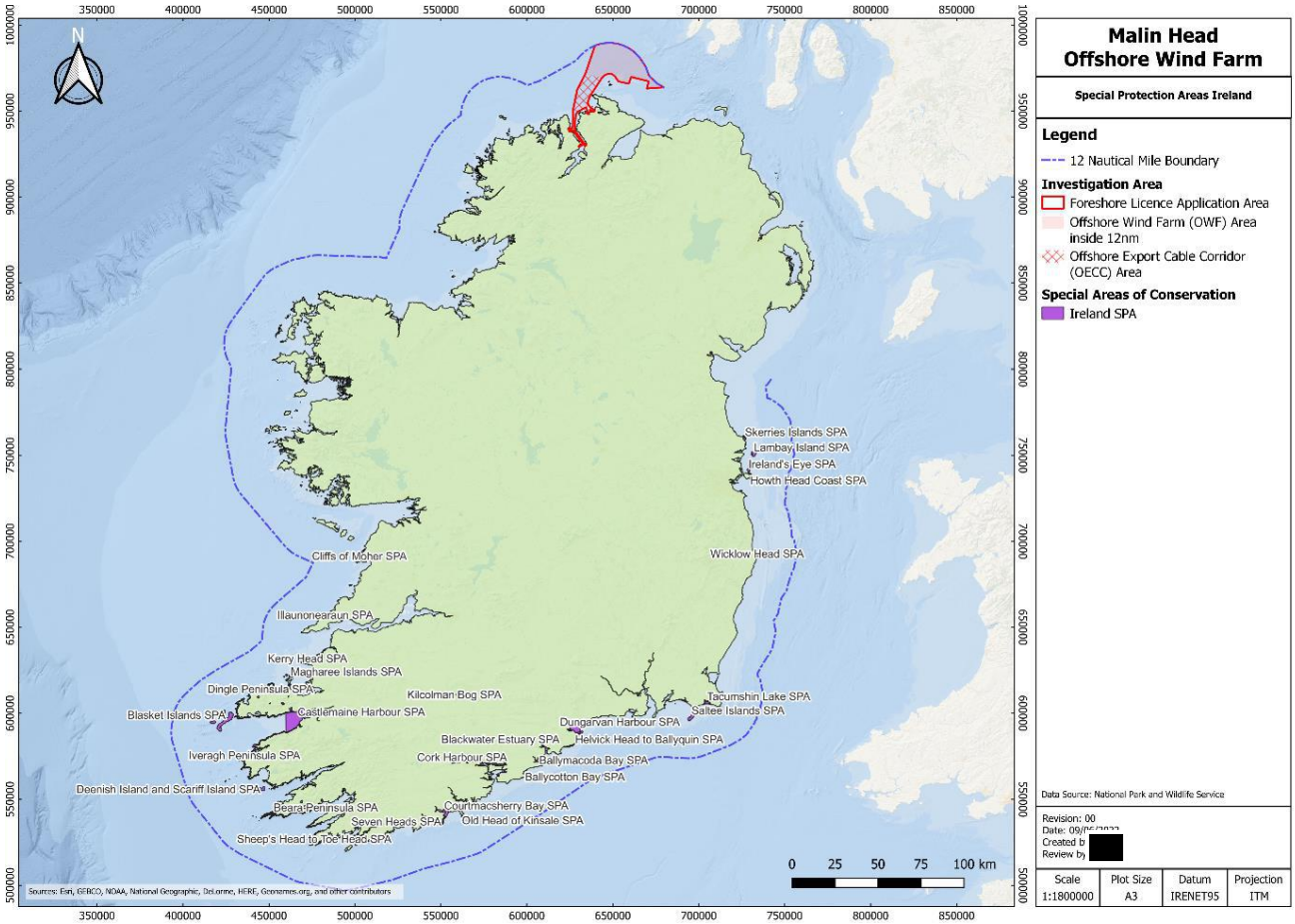

Figure 5-6 Irish SPAs designated for bird species potentially in the vicinity of the proposed site investigation activities for Malin Head.

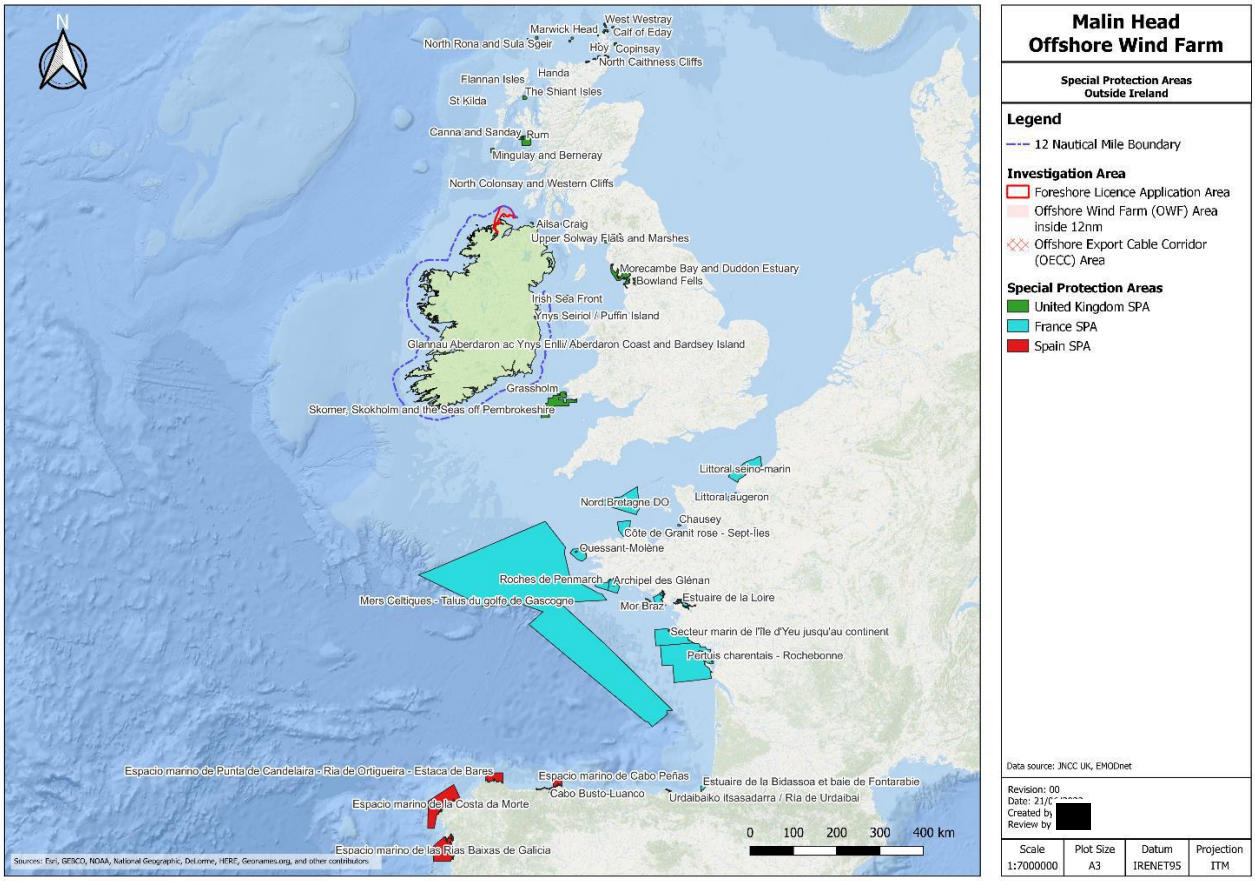

Figure 5-7 UK, Spain and France SPAs designated for birds potentially in the zone of influence of the proposed site investigation activities

5.2 Identification of relevant Natura 2000 sites using Source-Pathway-Receptor model and compilation of information Qualifying Interests and conservation objectives

A Source-Pathway-Receptor (SPR) model has been used to identify the existence and characteristics of the pathways that could link these European sites in the zone of influence of the proposed site investigation activities, and their Qualifying Interests to the proposed works (Table 5.2 below), as outlined in OPR Practice Note 01: PN01.

Full European site and feature background information has not been reproduced from the NPWS website as PN01 states “short paraphrasing and/or cross reference to NPWS is acceptable – it is not necessary to reproduce the full text on the QI/SC”; instead, the relevant information has been paraphrased with NPWS resources referenced as appropriate**.**

In total, 113 Natura 2000 sites were identified as being in the zone of influence of the Application area were deemed relevant and screened in for further consideration. SACs and their QIs which have been

screened in for further consideration are summarised in Table 5.3 and SPAs and their SCIs which have been screened in for further consideration are summarised in Table 5.4.

Note site investigation activities are located outside of SACs, no source-pathway-receptor connection has been identified to any designated Annex I habitats, unless there is direct overlap and are then considered further on a case-by-case basis. Annex I habitats and the '*Physical Disturbance to Marine Benthic Communities´* impact have therefore been screened out of Appropriate Assessment Stage 2 screening.

Table 5-2 Relevant Natura 2000 sites and Source-Pathway-Receptor Connections

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
Hempton's Turbot Bank SAC (IE000299)	Sandbanks which are slightly covered by seawater all of the time [1110]	0.00	All site investigation activities are located outside of any Natura 2000 site therefore there is no source-pathway-receptor connection and will be no direct impact to the designated Annex I habitats within Natura 2000 sites at Hempton's Turbot Bank SAC. The SAC is adjoining the FLA boundary but does not overlap – no direct impacts from Foreshore Licence Application site investigation activities.	N
Inishtrahull SAC (IE000154)	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	4.01	All site investigation activities are located outside of any Natura 2000 site therefore there is no source-pathway-receptor connection and will be no direct impact to the designated Annex I habitat within Natura 2000 sites at Inishtrahull SAC.	N
North Inishowen Coast SAC (IE0002012)	***Lutra lutra* (Otter) [1355]** Tidal mudflats and	0.00	. Part of the Foreshore Licence Application Area is within range of the **Otter (*Lutra lutra*)**	Y (mudflats and sandbanks QI) Y for Otter (Cable Corridor

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	sandbanks not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Vegetated sea cliffs [1230] Fixed Dunes [2130] Machairs [21A0] Dry Heath [4030]		QI. The cable corridor is overlapping with the North Inishowen Coast SAC. A source-pathway-receptor connection is possible for otters (Lutra lutra), who could move into the site and be impacted by disturbance from vibration/underwater noise and injury due to collision with survey vessels or sampling equipment. Part of the Foreshore Licence Application Area Offshore Export Cable Corridor is overlapping with the mudflats and sandbanks not covered by seawater at low tide at the North Inishowen Coast SAC, which could be impacted by the bottom contacting survey activities from the disturbance of sediment and suspended material into the water column.	overlapping SAC) N for all other Annex I Habitat QIs
Ballyhoorisky Point to Fanad Head SAC (IE0001975)	Perennial vegetation of stony banks [1220] Vegetated sea cliffs [1230] Oligiotrophic to mesotrophic lakes [3130] Hard water lakes [3140] Narrow-mouthed Whorl Snail [1014] Slender Naiad [1833]	0.00	All site investigation activities are located outside of any Natura 2000 site therefore there is no source-pathway-receptor connection and will be no direct impact to the designated Annex I habitats and species QIs within Natura 2000 sites at	N Adjoining at edge of cable corridor and no direct impact

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			Ballyhoorisky Point to Fanad Head SAC.	
Lough Swilly SAC (IE0002287)	**Otter (*Lutra lutra*)** [1355] Estuaries [1130] Lagoons [1150] Atlantic Salt Meadows [1330] *Molinia* Meadows [6410] Old Oak Woodlands [91A0]	0.00	Part of the Foreshore Licence Application Area is within range of the **Otter (*Lutra lutra*)** QI. A source-pathway-receptor connection is possible for otters, who could move into the site and be impacted by disturbance from vibration/underwater noise and injury due to collision with survey vessels or sampling equipment. Part of the Foreshore Licence Application Area Offshore Export Cable Corridor is overlapping with the mudflats and sandbanks not covered by seawater at low tide at the Lough Swilly SAC, which could be impacted by the bottom contacting survey activities from the disturbance of sediment and suspended material into the water column.	Y Estuaries QI N for all other Annex I Habitat QIs Y for Otter (Cable Corridor overlapping Swilly SAC
Glenamoy Bog SAC (IE0000500)	***Salmo salar* (Salmon) [1106]** Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	175.27	All site investigation activities are located outside of any Natura 2000 sites therefore there is no source-pathway-receptor connection and will be	N for all Annex I Habitats N for species indicated

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Machairs (* in Ireland) [21A0] Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with Erica tetralix [4010] Juniperus communis formations on heaths or calcareous grasslands [5130] Blanket bogs (* if active bog) [7130] Transition mires and quaking bogs [7140] Depressions on peat substrates of the Rhynchosporion [7150] Petalophyllum ralfsii (Petalwort) [1395] Saxifraga hirculus (Marsh Saxifrage) [1528] Hamatocaulis vernicosus (Slender Green Feather-moss) [6216]		no direct impact to the designated Annex I habitat within Natura 2000 sites Glenamoy Bog SAC. Part of the Foreshore Licence Application Area is within range of the **salmon (*Salmo salar*)** QI. A source-pathway-receptor connection is not possible for salmon, as salmon is an andromous fish which spawns in rivers and is only offered protection under Annex II of the EU Habitats directive when in freshwater.	
Gweedore Bay and Islands SAC (IE0001141)	**Lutra lutra (Otter) [1355]** Coastal lagoons [1150] Reefs [1170] Perennial vegetation of stony banks [1220] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with	65.60	All site investigation activities are located outside of any Natura 2000 sites therefore there is no source-pathway-receptor connection and will be no direct impact to the designated Annex I habitats within Natura 2000 sites at Gweedore Bay and Islands SAC. The Foreshore Licence Application Area is outside the range of the **Otter (Lutra lutra)** QI. Therefore, there is no source-pathway-receptor connection	N for all Annex I Habitat QI N for Otter QI

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Decalcified fixed dunes with Empetrum nigrum [2140] Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150] Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170] Humid dune slacks [2190] Machairs (* in Ireland) [21A0] Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] European dry heaths [4030] Alpine and Boreal heaths [4060] Juniperus communis formations on heaths or calcareous grasslands [5130] Euphydryas aurinia (Marsh Fritillary) [1065] Petalophyllum ralfsii (Petalwort) [1395] Najas flexilis (Slender Naiad) [1833]		and will be no direct impact to the designated QI species for Gweedore Bay and Islands SAC. .	
Tranarossan and Melmore Lough SAC (IE000194)	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of	14.18	All site investigation activities are located outside of any Natura 2000 sites therefore there is no source-	N for Annex I Habitat QIs

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	drift lines [1210] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Decalcified fixed dunes with Empetrum nigrum [2140] Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170] Humid dune slacks [2190] Machairs (* in Ireland) [21A0] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140] European dry heaths [4030] Alpine and Boreal heaths [4060] Petalophyllum ralfsii (Petalwort) [1395]		pathway-receptor connection and will be no direct impact to the designated Annex I habitat within Natura 2000 sites at Tranarossan and Melmore Lough SAC.	
Sheephaven SAC (IE0001190)	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Vegetated sea cliffs of the Atlantic and Baltic	28.83	All site investigation activities are located outside of any Natura 2000 sites therefore there is no source-pathway-receptor connection and will be no direct impact to	N for all Annex I Habitat QIs

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	coasts [1230] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Machairs (* in Ireland) [21A0] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Euphydryas aurinia (Marsh Fritillary) [1065] Petalophyllum ralfsii (Petalwort) [1395]		the designated Annex I habitat within Natura 2000 sites at Sheephaven SAC.	
Horn Head and Rinclevan SAC (IE000147)	***Halichoerus grypus* (Grey Seal) [1364]** Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	25.17	All site investigation activities are located outside of any Natura 2000 sites therefore there is no source-pathway-receptor connection and will be no direct impact to the designated Annex I habitat within Natura 2000 sites at Horn Head and Rinclevan SAC.	N for all Annex I Habitat QIs **Y for Grey seal QI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170] Humid dune slacks [2190] Machairs (* in Ireland) [21A0] Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] Vertigo geyeri (Geyer's Whorl Snail) [1013] Petalophyllum ralfsii (Petalwort) [1395] Najas flexilis (Slender Naiad) [1833]		Part of the Foreshore Licence Application Area is within the range of the **Grey Seal (*Halichoreus grypus*)** QI. A source-pathway-receptor connection is possible for Grey seals who could move into the investigation area and be impacted by disturbance from vibration/underwater noise and by injury due to collision with survey vessels or equipment.	
Rutland Island and Sound SAC (IE0002283)	**Phoca vitulina (Harbour Seal) [1365]** Coastal lagoons [1150] Large shallow inlets and bays [1160] Reefs [1170] Annual vegetation of drift lines [1210] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190]	77.77	All site investigation activities are located outside of any Natura 2000 sites therefore there is no source-pathway-receptor connection and will be no direct impact the designated Annex I habitat within Natura 2000 sites at Rutland Island and Sound SAC. Part of the Foreshore Licence Application Area is within the range of the **Harbour Seal (Phoca vitulina)** QI. A source pathway receptor connection is possible for harbour seals who could move into the investigation area and be impacted by disturbance from vibration/underwater	N for all Annex I Habitat QIs **Y for Harbour seal QI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			noise and by injury due to collision with survey vessels or equipment.	
Mulroy Bay SAC (IE0002159)	***Lutra lutra* (Otter) [1355]** Mudflats and sandflats not covered by seawater at low tide [1140] Large shallow inlets and bays [1160] Reefs [1170]	12.43	All site investigation activities are located outside of any Natura 2000 sites therefore there is no source-pathway-receptor connection and will be no direct impact to the designated Annex I habitat within Natura 2000 sites at Mulroy Bay SAC. Part of the Foreshore Licence Application Area is within range of the **Otter (*Lutra lutra*)** QI. A source-pathway-receptor connection is possible for otters, who could move into the site and be impacted by disturbance from vibration/underwater noise and injury due to collision with survey vessels or sampling equipment.	N for all Annex I Habitats **Y for otter QI**
Killala Bay/Moy Estuary SAC (IE0000458)	***Petromyzon marinus* (Sea Lamprey) [1095]** ***Phoca vitulina* (Harbour Seal) [1365]** Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210]	185.01	All site investigation activities are located outside of any Natura 2000 sites therefore there is no source-pathway-receptor connection and will be no direct impact the designated Annex I habitats within Natura 2000 sites at Killala Bay/Moy Estuary SAC.	N for Annex I Habitat QIs. Y for Sea Lamprey QI

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Galuco-Puccinelllietalia maritimae) [1330] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2190] Humid dune slacks [2190] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]		Part of the Foreshore Licence Application Area is within the range of the **Sea Lamprey (*Petromyzon marinus*)** QI. A source-pathway-receptor connection is not possible for **Harbour seals** as Foreshore Licence Application area and survey activities are outside the range of the Harbour seal QI at this SAC. A source-pathway-receptor connection is possible for **sea lampreys** who could move into the investigation area and be impacted by disturbance from vibration/underwater noise and by injury due to collision with survey vessels or sampling equipment.	
Slieve Tooey/Tormore Island/Loughros Beg Bay SAC (IE0000190)	***Lutra lutra* (Otter) [1355]** ***Halichoerus grypus* (Grey Seal) [1364]** Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Atlantic salt meadows (*Glauco-Pucinellietalia maritimae*) [1330] Mediterranean salt meadows (Juncetalia maritime) [1410] Embryonic shifting dunes [2110] Shifting dunes along the	104.47	All site investigation activities are located outside of any Natura 2000 site therefore there is no source-pathway-receptor connection and will be no direct impact the designated Annex I habitat within Natura 2000 sites at Slieve Tooey/Tormore Island/Loughros Beg Bay SAC. Part of the Foreshore Licence Application Area is within range of the **Grey Seal**	N for all Annex I Habitat QIs N for Otter QI **Y for Grey Seal QI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	shoreline with *Ammophila arenaria* (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation [2130] Decalcified fixed dunes with *Empetrum nigrim* [2140] Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) [2150] Dunes with Salix repens ssp.argentea (*Salicion arenariae*) [2170] Humid dune slacks [2190] Alpine and Boreal heaths [4060] Blanket bogs (*if active bog) [7130] *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014]		**(*Halichoerus grypus*)** QI. A source-pathway-receptor connection is possible for Grey seals who could move into the investigation area and be impacted by disturbance from vibration/underwater noise and by injury due to collision with survey vessels or equipment. A source-pathway-receptor connection is not possible for otters as the Foreshore Licence Application Area is outside their range.	
West of Ardara/Maas Road SAC (IE0000197)	***Salmo salar* (Salmon) [1160]** ***Lutra lutra* (Otter) [1355]** ***Phoca vitulina* (Harbour Seal) [1365]** Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Large shallow inlets and bays [1160] Annual vegetation of drift lines [1210] Atlantic salt meadows (*Glauco-Pucinellietalia maritimae*) [1330]	100.47	All site investigation activities are located outside of any Natura 2000 site therefore there will be no direct impact to most of the designated Annex I habitat within Natura 2000 sites at West of Ardara/Maas Road SAC. Part of the Foreshore Licence Application Area is within range of the **Salmon (*Salmo salar*) and Harbour Seal (*Phoca vitulina*)** QI. A source-pathway-receptor connection is	N for Annex I Habitat QIs N for Otter (FLA distance outside of range) N for Salmon N for Harbour Seal QI

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Mediterranean salt meadows (*Juncetalia maritime*) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2190] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Fixed coastal dunes with herbaceous vegetation [2130] Decalcified fixed dunes with *Empetrum nigrim* [2140] Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) [2150] Dunes with Salix repens *ssp.argentea* (Salicion arenariae) [2170] Humid dune slacks [2190] Machairs (* in Ireland) [21A0] Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130] Northern Atlantic wet heaths with Erica *tetralix* [4101] Alpine and Boreal heaths [4060]		not possible for salmon, as salmon is an andromous fish which spawns in rivers and is only offered protection under Annex II of the EU Habitats directive when in freshwater. A source-pathway-receptor connection is not possible for otters as the Foreshore Licence Application Area is outside their range. There is no source-pathway-receptor connection for the Harbour seal as the Foreshore Licence Application Area is outside the range of this species QI.	

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (*important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410] Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) [6510] Blanket bogs (*if active bog) [7130] Depressions on peat substrates of the Rhynchosporion [7150] Alkaline fens [7230] Vertigo geyeri (*Geyer's Whorl Snail)* [1013] *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029] *Euphydryas aurinia* (Marsh Fritillary) [1065] *Petalophyllum ralfsii* (Petalwort) [1395] *Najas flexilis* (Slender Naiad) [1833]			
Leannan River SAC (IE0002176)	**Salmo salar (Salmon) [1106]** **Lutra lutra (Otter) [1355]**	11.95	All site investigation activities are located outside of any Natura 2000 site therefore there will be no direct	N Annex I Habitat QIs N for Salmon QI Y for Otter QI

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Najas flexilis (Slender Naiad) [1833]		impact to most of the designated Annex I habitat within Natura 2000 sites at Lennan River SAC. Part of the Foreshore Licence Application Area is within range of the **Salmon (*Salmo salar*) and Otter (*Lutra lutra*)** QI. A source-pathway-receptor connection is not possible for salmon, as salmon is an andromous fish which spawns in rivers and is only offered protection under Annex II of the EU Habitats directive when in freshwater. A source-pathway-receptor connection is possible for otters, who could move into the site and be impacted by disturbance from vibration/underwater noise and injury due to collision with survey vessels or sampling equipment.	
Donegal Bay Muvagh SAC (IE0000133)	***Phoca vitulina* (Harbour Seal) [1365]** Mudflats and sandflats not covered by seawater at low tide [1140] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Dunes with *Salix* repens ssp.argentea (*Salicion arenariae*) [2170]	163.25	All site investigation activities are located outside of any Natura 2000 site therefore there will be no direct impact to most of the designated Annex I habitat within Natura 2000 sites at Donegal Bay Muvagh SAC. Part of the Foreshore Licence Application Area is outside the range of the **Harbour**	N for Annex I Habitat QIs N for Harbour Seal QI

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Humid dune slacks [2190]		**Seal (*Phoca vitulina*)** QI.	
Skerries and Causeway SAC (UK) (UK0030383)	**Harbour Porpoise (*Phocoena phocoena*)** **Note for UK SAC, only designated migratory QIs in the zone of influence of the proposed activities (as defined for relevant species above) are considered. Annex I Habitats or other Annex II Species are therefore not included in this table or considered for screening.**	17.26	Part of the Foreshore Licence Application Area is within the range of the **Harbour Porpoise (*Phocoena phocoena*)** QI. A source pathway receptor connection is possible for the harbour porpoise which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment.	**Y (Harbour Porpoise (*Phocoena phocoena*)**
Inner Hebrides and the Minches SAC (UK) (UK0030397)	**Harbour Porpoise (*Phocoena phocoena*)** **Note for UK SAC, only designated migratory QIs in the zone of influence of the proposed activities (as defined for relevant species above) are considered. Annex I Habitats or other Annex II Species are therefore not included in this table or considered for screening.**	70.87	Part of the Foreshore Licence Application Area is within the range of the **Harbour Porpoise (*Phocoena phocoena*)** QI. A source pathway receptor connection is possible for the harbour porpoise which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment.	**Y (Harbour Porpoise (*Phocoena phocoena*)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
The Maidens (UK0030384)	**Grey Seal (*Halichoerus grypus*)** **Note for UK SAC, only designated migratory OIs in the zone of influence of the proposed activities (as defined for relevant species above) are considered. Annex I Habitats or other Annex II Species are therefore not included in this table or considered for screening.**	80.66	Part of the Foreshore Licence Application Area is within the range of the **Grey Seal (*Halichoerus grypus*)** QI. A source pathway receptor connection is possible for the Grey seal, which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment.	**Y (Grey Seal (*Halichoerus grypus*)**
South-East Islay Skerries (UK0030067)	**Grey Seal (*Halichoerus grypus*)** **Note for UK SAC, only designated migratory OIs in the zone of influence of the proposed activities (as defined for relevant species above) are considered. Annex I Habitats or other Annex II Species are therefore not included in this table or considered for screening.**	46.84	Part of the Foreshore Licence Application Area is within the range of the **Grey Seal (*Halichoerus grypus*)** QI. A source pathway receptor connection is possible for the Grey seal, which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment.	**Y (Grey Seal (*Halichoerus grypus*)**
Mers Celtiques – Talus du Golfe de Gascogne SAC (FR5302015)	**Harbour Porpoise (*Phocoena phocoena*)** ***Tursiops truncates***	940.54	Part of the Foreshore Licence Application Area within the range of the **Harbour**	**Y (Harbour Porpoise (*Phocoena phocoena*)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	(Common Bottlenose Dolphin) **Note for UK and France SACs, only designated migratory OIs in the zone of influence of the proposed activities (as defined for relevant species above) are considered. Annex I Habitats or other Annex II Species are therefore not included in this table or considered for screening.**		**Porpoise (*Phocoena phocoena*)** QI. A source pathway receptor connection is possible for the **Harbour porpoise** which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment. A source pathway receptor connection is possible for the **Common Bottlenose dolphin** which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment.	
Duvillaun Islands SAC (IE000495)	***Tursiops truncatus* (Common Bottlenose Dolphin) [1349]** *Halichoerus grypus* (Grey Seal) [1364]	290.78	Part of the Foreshore Licence Application Area within the range of the Common Bottlenose dolphin (*Tusiops truncatus*) at Duvillaun Islands SAC. A source pathway receptor connection is possible for the **Common Bottlenose dolphin** which could move within the proposed site investigation area and	**Y (*Tursiops truncatus* (Common Bottlenose Dolphin)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment.	
Slyne Islands Head SAC (IE000328)	***Tursiops truncatus* (Common Bottlenose Dolphin) [1349]** Reefs [1170] *Halichoerus grypus* (Grey Seal) [1364]	348.64	Part of the Foreshore Licence Application Area within the range of the Common Bottlenose dolphin (*Tusiops truncatus*) at the Slyne Head Islands SAC. A source pathway receptor connection is possible for the **Common Bottlenose dolphin** which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment. All site investigation activities are located outside of any Natura 2000 site therefore there will be no direct impact to most of the designated Annex I habitat within Natura 2000 sites at Slyne Islands Head SAC.	**Y (*Tursiops truncatus* (Common Bottlenose Dolphin)** N (Reefs) N (Grey seal *Halichoerus grypus*)
Slyne Head Peninsula SAC (IE0002074)	***Tursiops truncatus* (Common Bottlenose**	340.83	Part of the Foreshore Licence Application Area within the range	**Y (*Tursiops truncatus* (Common**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Dolphin) [1349] Coastal lagoons [1150] Large shallow inlets and bays [1160] Reefs [1170] Annual vegetation of drift lines [1120] Perennial vegetation of stony banks [1220] Atlantic salt meadows (*Juncetalia maritime*) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] Machairs (* in Ireland) [21A0] Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Iseoto-Nanojuncetea* [3130] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140] European dry heaths or calcareous grasslands [5130] Juniperus communis formations on heaths or calcareous substrates (*Festuco-Brometalia*) (*important orchid sites)		of the Common Bottlenose dolphin (*Tusiops truncatus*) at the Slyne Head SAC. A source pathway receptor connection is possible for the **Common Bottlenose dolphin** which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment. All site investigation activities are located outside of any Natura 2000 site therefore there will be no direct impact to most of the designated Annex I habitat within Natura 2000 sites at Slyne Head Peninsula SAC.	**Bottlenose Dolphin)** **N (Habitat QIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	[6210] Molinia meadows on calcareous, peaty or clayey-silt laden soils (*Molinion caeruleae*) [6410] Lowland hay meadows (*Alpoecurus pratensis, Sanguisorba officinalis*) [6510] Alkaline fens [7230] Petalphyllum ralfsii (*Petalwort*) [1395] *Najas flexilis* (Slender Naiad) [1833]			
Blasket Islands SAC (IE0002172)	***Phocoena phocoena* (Harbour porpoise) [1351]** Reefs [1170] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030] Submerged or partially submerged sea caves [8330] *Halichoerus grypus* (Grey Seal) [1364]	477.76	Part of the Foreshore Licence Application Area within the range of the Harbour Porpoise (*Phocena phocena*) at the Slyne Head SAC. A source pathway receptor connection is possible for the **Harbour porpoise** which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment. All site investigation activities are located outside of any Natura 2000 site therefore there will be no direct impact to most of the designated Annex I habitat within Natura	Y (Harbour Porpoise QI) N (All other Habitats and QIs) N (Grey seal QI)

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			2000 sites at Blasket Islands SAC.	
Lower River Shannon SAC (IE0002165)	***Tursiops truncatus* (Common Bottlenose Dolphin) [1349]** Reefs [1170] Annual vegetation of drift lines [1120] Perennial vegetation of stony banks [1220] Atlantic salt meadows (*Juncetalia maritime*) [1410] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean slat meadows (*Juncetalia maritime*) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Molinia meadows on calcareous, peaty or clayey-silt laden soils (*Molinion caeruleae*) [6410] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]	437.85	Part of the Foreshore Licence Application Area within the range of the Common Bottlenose dolphin (*Tursiops truncatus*) at the Lower River Shannon SAC. A source pathway receptor connection is possible for the **Common Bottlenose dolphin** which could move within the proposed site investigation area and be impacted by disturbances from vibration and underwater noise and by injury due to collision with survey vessels or sampling equipment. All site investigation activities are located outside of any Natura 2000 site therefore there will be no direct impact to most of the designated Annex I habitat within Natura 2000 sites at Lower River Shannon SAC.	Y (Common Bottlenose dolphin (*Tursiops truncatus*) N (all other Habitats and QIs)

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Petromyzon marinus (Sea lamprey) [1095] *Lampetra planeri* (Brook lamprey) [1096] *Lamprey fluvitallis* (River lamprey) [1099] *Salmo salar* (Salmon) [1106] *Lutra lutra* (Otter) [1355]			
Inishtrahull SPA (IE0004100)	**Common Gull (*Larus canus*)** [A122] Shag (*Phalacrocorax aristotellis*) [A018] Barnacle Goose (*Branta leucopsis*) [A045]	4.25	The Foreshore Licence Application Area is within the range of the **Common Gull (*Larus canus*)** SCI at Inishtrahull SPA. A source pathway-receptor-connection is possible for the SCI who could move into the investigation area and be impacted by visual and noise disturbances, disturbance due to noise as a result of investigation activities and disturbance during breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the other designated bird SCIs, therefore there is no other source-pathway-receptor connection to Inishtraull SPA.	**Y Common Gull (*Larus canus*)** **N (All other SCIs)**
Malin Head SPA (IE0004146)	Corncrake (*Crex crex)* [A122]	3.60	All site investigation activities are located outside of this Natura 2000 site and outside	N

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			of the mean maximum foraging range of the sites designated bird SCIs, therefore there is no source-pathway-receptor connection to the Malin Head SPA nor on the conservation objectives of the SPA relevant to the designated species.	
Trawbreaga Bay SPA (IE0004043)	**Wetland and Waterbirds [A999]** Barnacle Goose (*Branta leucopsis*) [A045] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Chough (*Pyrrhocorax pyrrhocorax*) [A346]	0.47	All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites designated bird SCIs, therefore there is no source-pathway-receptor connection to the Trawbreaga Bay SPA nor on the conservation objectives of the SPA relevant to the designated species.	N
Lough Swilly SPA (IE0004075)	**Wetland and Waterbirds [A999]** Great Crested Grebe (*Podiceps cristatus*) [A005] Grey Heron (*Ardea cinerea*) [A028] Whooper Swan (*Cygnus cygnus*) [A038] Greylag Goose (*Anser anser*) [A043] Shelduck (*Tadorna tadorna*) [A048] Wigeon (*Anas penelope*) [A050] Teal (*Anas crecca*) [A052] Mallard (*Anas platyrhynchos*) [A053]	0.00	All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites designated bird SCIs, therefore there is no source-pathway-receptor connection to the Lough Swilly SPA nor on the conservation objectives of the SPA relevant to the designated species. A source pathway-receptor-connection is possible for the Wetland and	N Y Wetland and Waterbirds (Overlap with OECC)

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Shoveler (*Anas clypeata*) [A056] Scaup (*Aythya marila*) [A062] Goldeneye (*Bucephala clangula*) [A067] Red-breasted Merganser (*Mergus serrator*) [A069] Coot (*Fulica atra*) [A125] Oystercatcher (*Haematopus ostralegus*) [A130] Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Curlew (*Numenius arquata*) [A160] Redshank (*Tringa totanus*) [A162] Greenshank (*Tringa nebularia*) [A164] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182] Sandwich Tern (*Sterna sandvicensis*) [A191] Common Tern (*Sterna hirundo*) [A193] Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395]		Waterbird SCI who could move into the investigation area and be impacted by visual and noise disturbances, disturbance due to noise as a result of investigation activities and disturbance during breeding season.	
Horn Head to Fanad Head SPA (IE0004194)	**Fulmar (*Fulmarus glacialis*) [A009] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199]**	0.52	The Foreshore Licence Area is within range of the pelagic bird species **Fulmar (*Fulmarus glacialis*), Kittiwake (*Rissa tridactyla*), Guillemot**	**Y Fulmar (*Fulmarus glacialis*), Kittiwake (*Rissa tridactyla*), Guillemot (*Uria aalge*), Razorbill**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Razorbill (*Alca torda*) [A200] **Cormorant (*Phalacrocorax carbo*) [A017]** Shag (*Phalacrocorax aristotelis*) [A018] Barnacle Goose (*Branta leucopsis*) [A045] Peregrine (*Falco peregrinus*) [A103] Chough (*Pyrrhocorax pyrrhocorax*) [A346] Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395]		**(*Uria aalge*), Razorbill (*Alca torda*) and Cormorant (*Phalacrocorax carbo*)** at the Horn Head to Fanad Head SPA. A source pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbances, disturbance due to noise as a result of investigation activities and disturbance during breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to the Horn Head to Fanad Head SPA.	**(*Alca torda*) and Cormorant (*Phalacrocorax carbo*)** **N (other SCIs)**
Greers Isle SPA (IE0004082)	**Common Gull (*Larus canus*) [A179]** Black-headed Gull (*Chroicoephalus ridibundus*) [A182] Sanwich Tern (*Sterna sandvicensis*) [A191]	6	The Foreshore Licence Application Area is within range of the Common Gull (*Larus canus*) at the Greers Isle SPA. A source pathway-receptor-connection is possible for the SCI, who could move into	**Y (Common Gull (*Larus canus*)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to Greers Isle SPA.	
Tory Island SPA (IE0004073)	**Fulmar (*Fulmarus glacialis*) [A009]** **Razorbill (*Alca torda*) [A200]** **Puffin (*Fratercula arctica*) [A204]** Corncrake (*Crex crex*) [A122]	40 km (Seaward)	Part of the Foreshore Licence Application Area is within the range, from both a landward and seaward distance, for **Fulmar (*Fulmarus glacialis*), Razorbill (*Alca torda*) and Puffin (*Fratercula arctica*)** SCIs at the Tory Island SPA. A source pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds could also be impacted by	**Y (Fulmar (*fulmarus glacialis*), Razorbill (*Alca torda*), Puffin (*Fratercula arctica*)** **N (other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			underwater noise from investigation activities. All site investigation activities are located outside of this Natura 2000 sites and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no source-pathway-receptor connection to Tory Island SPA.	
West Donegal Coast SPA (IE0004150)	**Fulmar (*Fulmarus glacialis*) [A009]** **Kittiwake (*Rissa tridactyla*) [A188]** **Herring Gull (*Larus argentatus*) [A184]** **Razorbill (*Alca torda*) [A200]** **Cormorant (*Phalacrocorax carbo)* [A017]** Shag (*Phalolcrocorax aristotelis*) [A018] Peregrine (*Falco peregrinus*) [A103] Chough (*Pyrrhocorax pyrrhocorax*) [A346]	78 (landward) 95 (across headlands) 102 (seaward)	Part of the Foreshore Licence Application Area is within the range of the Fulmar (*Fulmarus glacialis*), Kittiwake (*Rissa tridactyla*), Herring Gull (*Larus argentatus*) and Razorbill (*Alca torda*) at the West Donegal Coast SPA. A source pathway-receptor-connection is possible for the Fulmar, Kittiwake and Herring Gull who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. The Foreshore Licence Application Area is outside the range of the Razorbill, therefore there is no source pathway-	**Y (Fulmar (*Fulmarus glacialis*), Kittiwake (*Rissa tridactyla*), Herring Gull (*Larus argentatus*) and Razorbill (*Alca torda*) SCIs** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			receptor connection for the species at this location. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to the West Donegal Coast SPA.	
Lambay Island SPA (IE0004069)	**Fulmar (*Fulmarus glacialis*) [A009]** **Kittiwake (*Rissa tridactyla*) [A188]** **Lesser Black-backed Gull (*Larus fuscus*) [A184]** **Herring Gull (*Larus argentatus*) [A184]** **Guillemot (*Uria aalge*) [A199]** **Razorbill (*Alca torda*) [A200]** **Puffin *(Fratercula arctica*) [A204]** Shag (*Phalacrocorax aristotellis*) [A017] Greylag Goose (*Anser Anser*) [A043]	204 (Landward distance) 244 (across headland) 265 (Seaward distance)	The Foreshore Licence Application Area is within range for the species **Fulmar (*Fulmarus glacialis*), Kittiwake (*Rissa tridactyla*)** at the Lambay Island SPA. A source pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. The Foreshore Licence Application Area is outside the range of the Lesser Black-	Y (Fulmar (Fulmarus glacialis), Kittiwake (Rissa tridactyla) N (for all other SCIs)

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			backed Gull, Herring Gull, Razorbill and Puffin, therefore there is no source-pathway-receptor connection for these species at Lambay Island SPA.	
Ireland's Eye SPA (IE0004117)	**Kittiwake (*Rissa tridactyla*) [A188]** Cormorant (*Phalacrocorax carbo*) [A017] Herring Gull (*Larus argentatus*) [A188] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200)	210 (landward) 265 (across headland) 272 (seaward)	The Foreshore Licence Application Area is within the range of the species **Kittiwake (*Rissa tridactyla*)** at Ireland's Eye SPA. Therefore, a source pathway-receptor-connection is possible for the Kittiwake, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to Ireland's Eye SPA.	**Y Kittiwake (*Rissa tridactyla)* SCI** **N (Other SCIs)**
Howth Head Coast SPA (IE0004113)	**Kittiwake (*Rissa tridactyla*) [A188]**	214 (landward) 262	The Foreshore Licence Application Area is within the range of the **Kittiwake (*Rissa tridactyla*) SCI** at	**Y (Kittiwake (*Rissa tridactyla*) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
		(across headland) 275 (seaward)	Howth Head Coast SPA. A source pathway-receptor-connection is possible for the Kittiwake, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to Howth Head Coast SPA.	
Poulaphouca Reservoir SPA (IE0004063)	**Lesser Black-backed Gull (*Larus fuscus*) [A183]** Greylag Goose (*Anser anser*) [A043]	225 (landward) 296 (across headland) 314 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Lesser Black-backed Gull (*Larus fuscus*) SCI** at the Poulaphouca Reservoir SPA. A source pathway-receptor-connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance,	**Y Lesser Black-backed Gull (*Larus fuscus*) SCI** **N (other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to Poulaphouca Reservoir SPA.	
Wicklow Head SPA (IE0004127)	**Kittiwake (*Rissa tridactyla*) [A188]**	257 (landward) 319 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Kittiwake (*Rissa* tridactyla)** at Wicklow Head SPA. A source pathway-receptor-connection is possible for the Kittiwake, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season.	**Y (Kittiwake (*Rissa* tridactyla) SCI**
Saltee Islands SPA (IE0004002)	**Fulmar (*Fulmar glacialis*) [A009]** **Gannet (*Morus bassanus*) [A016]** **Herring Gull (*Larus***	336 (landward) 434 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Fulmar (*Fulmar glacialis*) and**	**Y Fulmar (*Fulmar glacialis*) and Gannet (*Morus bassanus*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	***argentatus*) [A184]** **Kittiwake (*Rissa tridactyla*) [A188]** **Guillemot (*Uria aalge*) [A199]** **Razorbill (*Alca torda*) [A200]** **Puffin (*Fratercula arctica*) [A204]** Lesser Black-backed Gull (*Larus fuscus*) [A183] Cormorant (*Phalacrocorax carbo*) [A017] Shag (*Phalacrocorax aristotelis*) [A018]		**Gannet (*Morus bassanus*)** at the Saltee Islands SPA. A source pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to the Saltee Islands SPA.	**N (other SCIs)**
Helvick Head to Ballyquin SPA (IE0004192)	**Herring Gull (Larus argentatus) [A184]** **Kittiwake (Rissa tridactyla) [A188]** Cormorant (Phalacrocorax carbo) [A017] Cough (Pyrrhocorax pyrrhocorax) [A346]	377 (landward)	The Foreshore Licence Area is outside the mean maximum foraging range of the sites designated species at Helvick Head to Ballyquin SPA. Therefore, there is no source-pathway-receptor connection for the Herring Gull and Kittiwake species at this location.	**N (All SCIs)**
Old Head of Kinsale SPA (IE0004021)	**Kittiwake (Rissa tridactyla) [A188]** **Guillemot (Uria aalge)**	395 (landward)	The Foreshore Licence Area is outside the mean maximum foraging range of the	**N (All SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	[A199]		sites designated species at the Old Head of Kinsale SPA. Therefore, there is no source-pathway-receptor connection for the Kittiwake and Guillemot species at the Old Head of Kinsale SPA.	
Beara Peninsula SPA (IE0004155)	**Fulmar (*Fulmar glacialis*) [A009]** Cough (*Pyrrhocorax pyrrhocorax*) [A346]	425 (landward) 543 (seaward)	The Foreshore Licence Application Area is within the range of species **Fulmar (*Fulmar glacialis*) SCI** the Beara Peninsula SPA**.** A source pathway-receptor-connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection at Beara Peninsula SPA.	**Y (Fulmar (*Fulmar glacialis*) SCI** **N (Other SCIs)**
The Bull and the Cow Rocks SPA (IE0004066)	**Gannet (*Morus bassanus*) [A016]** **Storm Petrel**	502 (landward)	The Foreshore Licence Application Area is within the range of	**Y (Gannet (*Morus bassanus*) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	(*Hydrobates pelagius*) [A016] **Puffin (*Fratercula arctica*) [A204]**	540 (seaward)	the pelagic bird species **Gannet (*Morus bassanus*) SCI** at the Bull and Cow Rocks SPA**.** A source pathway-receptor-connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection at the Bull and Cow Rocks SPA.	**N (Other SCIs)**
Deenish Island and Scariff Island SPA (IE0004175)	**Fulmar (*Fulmar glacialis*) [A009]** **Manx Shearwater (*Puffinus puffinus*) [A013]** **Storm Petrel (*Hydrobates pelagius*) [A016]** **Lesser Black-backed Gull (*Larus fuscus*) [A183]** Arctic Tern (*Sterna paradisaea*) [A194]	415 (landward) 490 (across headlands) 512 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Fulmar (*Fulmar glacialis*) and Manx Shearwater (*Puffinus puffinus*) SCIs** at the Deenish Island and Scariff Island SPA. A source pathway-receptor-connection is possible for these SCIs, who could move	**Y (Fulmar (*Fulmar glacialis*) and Manx Shearwater (*Puffinus puffinus*) SCI** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to Deenish Island and Scariff Island SPA.	
Blasket Islands SPA (IE0004008)	**Fulmar (*Fulmarus glacialis*) [A009]** **Manx Shearwater (*Puffinus puffinus*) [A013]** **Kittiwake (*Rissa tridactyla*) [A188]** **Puffin (*Fratercula arctica*) [A204]** **Storm Petrel (*Hydrobates pelagicus*) [A014]** Shag (*Phalacrocorax aristotelis*) [A018] Lesser Black-backed Gull (*Larus fuscus*) [A183] Herring Gull (*Larus argentatus*) [A184]	386 (landward) 463 (across headland) 482 (seaward)	The Foreshore Licence Application Area is with the range of the species Fulmar **(*Fulmarus glacialis*) and Manx Shearwater (*Puffinus puffinus*) SCIs** at the Blasket Islands SPA. A source pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance	**Y (Fulmar (*Fulmarus glacialis*) and Manx Shearwater (*Puffinus puffinus*) SCIs** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Arctic Tern (*Sterna paradisaea*) [A194] Razorbill (*Alca torda*) [A200] Chough (*Pyrrhocorax pyrrhocorax*) [A346]		during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to the Blasket Islands SPA. The Foreshore Licence Application Area is outside the range of the Kittiwake, Storm Petrel and Puffin, therefore there is no source-pathway-receptor connection for these pelagic species at Blasket Islands SPA.	
Skelligs SPA (IE0004007)	**Fulmar (*Fulmarus glacialis*) [A009]** **Manx Shearwater (*Puffinus puffinus*) [A013]** **Kittiwake (*Rissa tridactyla*) [A188]** **Guillemot (*Uria aalge*) [A199]** **Puffin (*Fratercula arctica*) [A204]** **Gannet (*Morus bassanus*) [A016]** Storm Petrel (*Hydrobates pelagicus*) [A014]	419 (landward) 490 (seaward)	The Foreshore Licence Application Area is within the range of the **Fulmar (*Fulmarus glacialis*), Manx Shearwater (*Puffinus puffinus*) and Gannet (*Morus Bassanus*) SCIs** at the Skelligs SPA. A source-pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise	**Y (Fulmar (*Flumarus glacialis*), Manx Shearwater (*Puffinus puffinus*) and Gannet (*Morus Bassanus*) SCIs** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to the Skelligs SPA.	
Puffin Island SPA (IE0004003)	**Fulmar (*Fulmarus glacialis*) [A009]** **Manx Shearwater (*Puffinus puffinus*) [A013]** **Storm Petrel (*Hydrobates pelagicus*) [A014]** **Lesser Black-backed Gull (*Larus fuscus*) [A183]** **Razorbill (*Alca torda*) [A200]** **Puffin (*Fratercula arctica*) [A204]**	410 (landward) 532 (seaward)	The Foreshore Licence Application Area is within the range of the **Fulmar (*Fulmarus glacialis*) and Manx Shearwater (*Puffinus puffinus*) SCI** at the Puffin Island SPA. A source-pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds could also be impacted by	**Y (Fulmar (*Fulmarus glacialis*) and Manx Shearwater (*Puffinus puffinus*) SCIs** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			underwater noise from investigation activities. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to Puffin Island SPA.	
Iveragh Peninsula SPA (IE0004154)	**Fulmar (*Fulmarus glacialis*) [A009]** **Kittiwake (*Rissa tridactyla*) [A188]** **Guillemot (*Uria aalge*) [A199]** Peregrine (*Falco peregrinus*) [A103] Chough (*Pyrrhocorax pyrrhocorax*) [A346]	340 (landward) 481 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Fulmar (*Fulmarus glacialis*) SCI** at the Iveragh Peninsula SPA. A source-pathway-receptor-connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-	**Y (Fulmar (*Fulmarus glacialis*) SCI** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			receptor connection to the Iveragh Peninsula SPA.	
Dingle Peninsula SPA (IE0004153)	**Fulmar (*Fulmarus glacialis*) [A009]** Peregrine (*Falco peregrinus*) [A103] Chough (*Pyrrhocorax pyrrhocorax*) [A346]	359 (landward) 431 (seaward)	The Foreshore Licence Application Area is within the range of the **Fulmar (*Fulmarus glacialis*)** at the Dingle Peninsula SPA. A source-pathway-receptor-connection is possible for the Fulmar, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range of the sites other designated bird SCIs, therefore there is no other source-pathway-receptor connection to the Dingle Peninsula SPA.	**Y (Fulmar (*Fulmarus glacialis*) SCI** **N (Other SCIs)**
Loop Head SPA (IE0004119)	**Kittiwake (Rissa tridactyla) [A188]** **Guillemot (Uria aalge) [A199]**	322 (landward) 403 (seaward)	The Foreshore Licence Application Area is outside the range the pelagic bird species **Kittiwake (Rissa tridactyla) and Guillemot (Uria aalge)** at Loop Head SPA. All site investigation activities are located outside of this Natura	**N (All SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to Loop Head SPA.	
Cliffs of Moher SPA (IE0004005)	**Fulmar (*Fulmarus glacialis*) [A009]** **Kittiwake (*Rissa tridactyla*) [A188]** **Guillemot (*Uria aalge*) [A199]** **Razorbill (*Alca torda*) [A200]** **Puffin (*Fratercula arctica*) [A204]** Chough (*Pyrrhocorax pyrrhocorax*) [A346]	264 (landward) 376 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Fulmar (*Fulmarus glacialis*), Kittiwake (*Rissa tridactyla*), and Puffin (*Fratercula arctica*) SCIs** at the Cliffs of Moher SPA. A source-pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. The Foreshore Licence Application Area is outside the range of the Guillemot, therefore there is no source-pathway-receptor connection for this species.	**Y (Fulmar (*Fulmarus glacialis*), Kittiwake (*Rissa tridactyla*), and Puffin (*Fratercula arctica*)** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to the Cliffs of Moher SPA.	
Inishmore SPA (IE0004152)	**Kittiwake (Rissa tridactyla) [A188]** Arctic Tern (*Sterna paradisaea*) [A194] Little Tern (*Sterna albifrons*) [A195] Guillemot (*Uria aalge*) [A199]	260 (landward) 338 (seaward)	The Foreshore Licence Application Area is within the range of the **Kittiwake (*Rissa tridactyla*) SCI** at the Inishmore SPA. A source-pathway-receptor-connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to Inishmore SPA.	**Y (Kittiwake (*Rissa tridactyla*) SCI** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
Cruagh Island SPA (IE0004170)	**Manx Shearwater (*Puffinus puffinus*) [A013]** Barnacle Goose (*Branta leucopsis*) [A045]	248 (landward) 391 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Manx Shearwater (*Puffinus puffinus*) SCI** at the Cruagh Island SPA. A source-pathway-receptor-connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to Cruagh Island SPA.	**Y (Manx Shearwater (*Puffinus puffinus*) SCI** **N (Other SCIs)**
High Island, Inishshark and Davillaun SPA (IE0004144)	**Fulmar (*Fulmarus glacialis*) [A009]** Barnacle Goose (*Branta leucopsis*) [A045] Arctic Tern (*Sterna paradisaea*) [A194]	243 (landward) 321 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Fulmar (*Fulmar glacialis*) SCIs** at the High Island, Inishshark and Davillaun SPA. A source-pathway-receptor-connection is possible for this SCI, who could move into	**Y (Fulmar (*Fulmar glacialis*) SCI** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to the High Island, Inishshark and Davillaun SPA.	
Clare Island SPA (IE0004136)	**Fulmar (F*ulmarus glacialis*) [A009]** **Kittiwake (*Rissa tridactyla*) [A188]** **Guillemot (*Uria aalge*) [A199]** **Razorbill (*Alca torda*) [A200]** Shag (*Phalacrocorax aristotelis*) [A018] Common Gull (*Larus canus*) [A182] Chough (*Pyrrhocorax pyrrhocorax*) [A346]	213 (landward) 297 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Fulmar (*Fulmar glacialis*) and Kittiwake (*Rissa tridactyla*) SCIs** at the Clare Island SPA. A source-pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season.	**Y (Fulmar (*Fulmar glacialis*) and Kittiwake (*Rissa tridactyla*) SCIs** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			The Foreshore Licence Application Area is outside the range of the Guillemot and Razorbill QIs, therefore there is no source-pathway-receptor connection for these species. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to Clare Island SPA.	
Bills Rock SPA (IE0004177)	**Puffin (*Fratercula arctica*) [A204]** Storm Petrel (*Hydrobates pelagicus*) [A014]	221 (landward) 265 (seaward)	The Foreshore Licence Application Area is within the range of the **Puffin (*Fratercula arctica*) SCI** at the Bills Rock SPA. A source-pathway-receptor-connection is possible for the Puffin, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Puffin (*Fratercula arctica*) SCI** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to Bills Rock SPA.	
Duvillaun Islands SPA (IE000411)	**Fulmar (*Fulmarus glacialis*) [A009]** Storm Petrel (*Hydrobates pelagicus*) [A014] Barnacle Goose (*Branta leucopsis*) [A045]	202 (landward) 227 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Fulmar (*Fulmar glacialis*) SCI** at the Duvillaun Islands SPA. A source-pathway-receptor-connection is possible this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to Duvillaun Islands SPA.	**Y (Fulmar (*Fulmar glacialis*) SCI** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
Aughris Head SPA (IE0004133)	**Kittiwake (*Rissa tridactyla*) [A188]**	121 (landward) 164 (seaward)	The Foreshore Licence Application Area is within the range of the **Kittiwake (*Rissa tridactyla*)** at the Aughris Head SPA. A source-pathway-receptor-connection is possible for the Kittiwake, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to Aughris Head SPA.	**Y Kittiwake (*Rissa tridactyla*) SCI** **N (Other SCIs)**
West Donegal Islands SPA (IE0004230)	**Herring Gull (*Larus argentatus*) [A184]** Shag (*Phalacrocorax aristotelis*) [A018] Peregrine (*Falco peregrinus*) [A103] Chough (*Pyrrhocorax pyrrhocorax*) [A346]	45 (landward) 56 (seaward)	The Foreshore Licence Application is within the range of the pelagic bird species **Herring Gull (*Larus argentatus*) SCI** at the West Donegal Islands SPA. A source-pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise	**Y (Herring Gull (*Larus argentatus*) SCI** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to West Donegal Islands SPA.	
Roaninish SPA (IE0004121)	**Herring Gull (*Larus argentatus*) [A184]** Barnacle Goose (*Branta leucopsis*) [A045]	69 (landward) 94 (seaward)	The Foreshore Licence Application Area is within the range of the **Herring Gull (*Larus arentatus)* SCI** at the Roaninish SPA. A source-pathway-receptor-connection is possible for the Herring Gull, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All site investigation activities are located outside of this Natura 2000 site and outside of the mean maximum foraging range, landward and seaward	**Y (Herring Gull (*Larus arentatus)* SCI** **N (Other SCIs)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			of the sites designated bird SCIs, therefore there is no other source-pathway-receptor connection to Roaninish SPA.	
Alisa Craig SPA UK9003091	**Gannet (*Morus Bassana*)** **Kittiwake (*Rissa tridactyla*)** **Lesser Black-backed Gull (*Larus fuscus*)** **Guillemot (*Uria a*alge)** **Herring Gull (*Larus arentatus*)**	102	The Foreshore Licence Application Area is within the range of species **Gannet (*Morus Bassana*), Kittiwake (*Rissa tridactyla*), Lesser Black-backed Gull (*Larus fuscus*) and Guillemot (*Uria aalge*)** at the Alisa Craig SPA**.** A source pathway-receptor-connection is possible for the SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season.	**Y Gannet (*Morus Bassana*), Kittiwake (*Rissa tridactyla*), Lesser Black-backed Gull (*Larus fuscus*) and Guillemot (*Uria aalge*)**
Calf of Eday SPA (UK9002431)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)** **Guillemot (*Uria aalge*)**	477 (landward) 558 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Fulmar (*Fulmarus glacialis*) and Kittiwake (*Rissa tridactyla*)** at the Calf of Eday SPA**.** A source pathway-receptor-connection is possible for the SCIs,	**Y Fulmar (*Fulmarus glacialis*) and Kittiwake (*Rissa tridactyla*)** **N (Guillemot (*Uria aalge*)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds such, could also be impacted by underwater noise from investigation activities. The Foreshore Licence Application Area is outside the range of the **Guillemot (*Uria aalge*)**.	
Canna and Sanday SPA (UK9001431)	**Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arcitca*)** **Guillemot (*Uria aalge*)** **Herring Gull (*Larus argentatus*)**	157	The Foreshore Licence Application Area is within the range of the pelagic bird species **Kittiwake (*Rissa tridactyla*) and Puffin (*Fratercula arcitca*) SCIs** at the Canna and Sanday SPA. A source pathway-receptor-connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding	**Y Kittiwake (*Rissa tridactyla*) Puffin (*Fratercula arcitca*) SCIs** **N Guillemot (*Uria aalge*) Herring Gull (*Larus argentatus*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			season. The Foreshore Licence Application Area is outside of the mean maximum foraging distance for the **Guillemot (*Uria aalge*) and Herring Gull (*Larus argentatus*) SCIs**. Therefore, there is no source-pathway-receptor connection to Canna and Sanday SPA.	
Copinsay SPA (UK9002151)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)** **Guillemot (*Uria aalge*)**	446 (landward) 534 (seaward)	The Foreshore Licence Application Area is within the range of species Fulmar (Fulmarus glacialis) at the Copinsay SPA**.** A source pathway-receptor-connection is possible for the SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. The Foreshore Licence Application Area is outside the range of the **Kittiwake (*Rissa*	**Y (Fulmar (*Fulmarus glacialis*) SCI** **N (Kittiwake (*Rissa tridactyla*)** **Guillemot (*Uria aalge*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			***tridactyla*) SCI** at Copinsay SPA. Both the landward and seaward distances are outside the mean maximum foraging range for this pelagic SCI. Therefore, there is no source-pathway-receptor connection for this species. The Foreshore Licence Application Area is outside the range of the **Guillemot (*Uria aalge*) SCI** at Copinsay SPA. Both the landward and seaward distances are outside the mean maximum foraging range for this pelagic SCI. Therefore, there is no source-pathway-receptor connection for this species.	
Flannan Isles SPA (UK9001021)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arcitca*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria aalge*)**	251 (landward)	The Foreshore Licence Application Area is within the range of species **Fulmar (*Fulmarus glacialis*), Kittiwake (*Rissa tridactyla*) and Puffin (*Fratercula arcitca*)** at the Flannan Isles SPA**.** A source pathway-receptor-connection is possible for these SCIs, who could move into the investigation	**Y Fulmar (*Fulmarus glacialis*), Kittiwake (*Rissa tridactyla*), Puffin (*Fratercula arcitca*) SCIs** **N (Razorbill (*Alca torda*) Guillemot (*Uria aalge*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds such, could also be impacted by underwater noise from investigation activities. The Foreshore Licence Application Area is outside the range of the **Razorbill (*Alca torda*) and Guillemot (*Uria aalge*)**. All site investigation activities are located outside of this site and outside the mean maximum range of the other designated bird SCIS, therefore there is no other source-pathway-receptor connection to Flannan Isles SPA.	
Foula SPA (UK9002061)	**Fulmar (*Fulmarus glacialis*)** **Puffin (*Fratercula arctica*)** **Guillemot (*Uria aalge*)**	568 (landward) 609 (seaward)	The Foreshore Licence Application Area is within the range of species **Fulmar (*Fulmarus glacialis*)** at the Foula SPA. A source pathway-receptor-connection is possible for this SCI who could move into the investigation area	**Y Fulmar (*Fulmarus glacialis*) SCI** **N (Puffin (*Fratercula arctica*)** **Guillemot (*Uria aalge*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds such, could also be impacted by underwater noise from investigation activities. The Foreshore Licence Application Area is outside of the mean maximum foraging distance, both landward and seaward, for the **Puffin (*Fratercula arctica*) and Guillemot (*Uria aalge*)** SCIs. Therefore, there is no other source-pathway-receptor connection to Foula SPA.	
Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA (UK903121)	**Manx shearwater (*puffinus puffinus*)**	311 (landward) 337 (seaward)	Part of the Foreshore Licence Application Area is within the range of species **Manx Shearwater (*Puffinus puffinus*)** at the Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardseu Island SPA. A source pathway-	**Y (Manx shearwater (*puffinus puffinus*) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			receptor-connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds such, could also be impacted by underwater noise from investigation activities.	
Grassholm SPA (UK9014041)	**Gannet (*Morus bassana*)**	340 (landward) 438 (across headlands) 453 (seaward)	Part of the Foreshore Licence Application Area is within the range, from landward and seaward distances, of species Gannet (*Morus bassana*) at the Grassholm SPA. A source-pathway-receptor connection is possible for this SCI who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. Diving birds could also be	**Y Gannet (*Morus bassana*)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			impacted by underwater noise from investigation activities.	
Handa SPA (UK9001241)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria aalge*)**	323 (landward) 330 (across headlands) 344 (seaward)	Part of the Foreshore Licence Application Area is with range, landward and seawards distances, of the species **Fulmar (*Fulmarus glacialis*)** at the Handa SPA. A source-pathway-receptor connection is possible for the Fulmar who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All site investigation activities are located outside of this Natura 2000 site and outside the mean maximum foraging ranges for the **Kittiwake (*Rissa tridactyla*), Razorbill (*Alca torda*), Guillemot (*Uria aalge*) SCIs**. Therefore, there is no other source-pathway-receptor connection to Handa	**Y Fulmar (*Fulmarus glacialis*)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			SPA.	
Hoy SPA (UK9002141)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arctica*)**	422 (landward) 450 (across headlands) 470 (seaward)	The Foreshore Licence Application Area is with range of the species **Fulmar (*Fulmarus glacialis*)** at the Hoy SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. The Foreshore Licence Application Area is outside the range, landward and seaward distances, of the **Kittiwake (*Rissa tridactyla*) and Puffin (*Fratercula arctica*) SCIs**. Therefore, there is no other source-pathway-receptor connection to the Hoy SPA.	**Y (Fulmar (*Fulmarus glacialis*) SCI** **N (Kittiwake (*Rissa tridactyla*) Puffin (*Fratercula arctica*) SCI**
Hermaness, Saxa Vord and Valla Field SPA (UK9002011)	**Fulmar (*Fulmarus glacialis*)** **Gannet (*Morus bassana*)** **Kittiwake (*Rissa*	679 (landward)	Part of the Foreshore Licence Application Area is with range of the species **Fulmar (Fulmarus glacialis)** at	**Y Fulmar (*Fulmarus glacialis*) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	***tridactyla*)** **Puffin (*Fratercula arctica*)** **Guillemot (*Uria aalge*)**	697 (across headlands) 710 (seaward)	the Hermaness, Saxa Vord and Valla Field SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All site investigation activities are located outside of this site and outside of the mean maximum foraging ranges, landward and seaward distances, for the **Gannet (*Morus bassana*)** **Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arctica*)** **Guillemot (*Uria aalge*)**. Therefore, there is no other source-pathway-receptor connection to Hermaness, Saxa Vord and Valla Field SPA.	**N ((*Morus bassana*)** **Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arctica*)** **Guillemot (*Uria aalge*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
Irish Sea Front SPA (UK9020328)	**Manx shearwater (*Puffinus puffinus*)**	209 (landward) 221 (across headlands) 225 (seaward)	The Foreshore Licence Application Area is with range of the species **Manx Shearwater (*Puffinus puffinus*)** at the Irish Sea Front SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y Manx shearwater (*Puffinus puffinus*)**
Marwick Head SPA (UK9002121)	**Kittiwake (*Rissa tridactyla*)** **Guillemot (*Uria aalge*)**	446	The Foreshore Licence Application Area is outside of the mean maximum foraging range of the pelagic bird species **Kittiwake (*Rissa tridactyla*) and Guillemot (*Uria aalge*) SCIs**. Therefore, there is no source-pathway-receptor connection for the relevant bird species at Marwich Head SPA.	**N (Kittiwake (*Rissa tridactyla*) and Guillemot (*Uria aalge*) SCIs**
Mingulay and Berneray SPA (UK9001121)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)**	125	The Foreshore Licence Application Area is with range of the species **Fulmar (*Fulmarus glacialis*),**	**Y (Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Puffin (*Fratercula arctica*) **Razorbill (*Alca torda*)** **Guillemot (*Uria aalge*)**		**Kittiwake (*Rissa tridactyla*), Puffin (*Fratercula arctica*), Razorbill (*Alca torda*), and Guillemot (*Uria aalge*)** at the Mingulay and Berneray SPA. A source-pathway-receptor connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	***tridactyla*)** **Puffin (*Fratercula arctica*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria aalge*) SCIs**
Morecambe Bay and Duddon Estuary SPA (UK902326)	**Lesser Black-backed Gull (*Larus fuscus*)** **Herring Gull (*Larus argentatus*)**	243 (landward) 255 (seaward)	The Foreshore Licence Application Area is outside the range, landward and seaward, of the **Lesser Black-backed Gull (*Larus fuscus*) and Herring Gull (*Larus argentatus*) SCIs** at Morecambe Bay and Duddon Estuary SPA. Therefore, there is no source-pathway-receptor connection for these species to be impacted by the FLA site investigation activities.	**N (Lesser Black-backed Gull (*Larus fuscus*)** **Herring Gull (*Larus argentatus*)** **SCIs**
North Colonsay and Western Cliffs SPA (UK9003171)	**Kittiwake (*Rissa tridactyla*)**	74	The Foreshore Licence Application Area is within the range of	**Y Kittiwake (*Rissa***

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
	Guillemot (*Uria aalge*)		the pelagic bird species **Kittiwake (Rissa tridactyla) and Guillemot (Uria aalge)** at the North Colonsay and Western Cliffs SPA. A source-pathway-receptor connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	***tridactyla*)** **Guillemot (*Uria aalge*)**
North Caithness Cliffs SPA (UK9001181)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arctica*)** **Razorbill (*Alca torda*)**	381 (landward) 398 (across headlands) 448 (seaward)	The Foreshore Licence Application Area is within the range of the species **Fulmar (*Fulmarus glacialis*)** at the North Caithness Cliffs SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities	**Y Fulmar (*Fulmarus glacialis*) SCI** **N (Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arctica*)** **Razorbill (*Alca torda*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All FLA site investigation activities area located outside of the mean maximum foraging ranges, landward and seaward distances, for **Kittiwake (*Rissa tridactyla*), Puffin (*Fratercula arctica*) and Razorbill (*Alca torda*) SCIs**. Therefore, there is no other source-pathway-receptor connection to North Caithness Cliffs SPA.	
North Rona and Sula Sgeir SPA (UK9001011)	**Fulmar (*Fulmarus glacialis*)** **Gannet (*Morus bassanus*)** **Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arctica*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria aalge*)**	392 (landward) 398 (seaward)	The Foreshore Licence Application Area is within the range of the species **Fulmar (*Fulmarus glacialis*) and Gannet (*Morus bassanus*)** at the North Rona and Sula Sgeir SPA. A source-pathway-receptor connection is possible for the Fulmar and Gannet who could move into the investigation area and be impacted by visual and noise disturbance,	**Y (Fulmar (*Fulmarus glacialis*), Gannet (*Morus bassanus*) SCIs** **N (Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arctica*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria*

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All FLA site investigation activities area located outside of the mean maximum foraging ranges, landward and seaward distances, for **Kittiwake (*Rissa tridactyla*), Puffin (*Fratercula arctica*), Razorbill (*Alca torda*), and Guillemot (*Uria aalge*) SCIs**. Therefore, there is no other source-pathway-receptor connection to the North Rona and Sula Sgeir SPA.	***aalge*) SCIs**
Noss SPA (UK9002081)	**Fulmar (Fulmarus glacialis)** **Gannet (Morus bassanus)** **Kittiwake (Rissa tridactyla)** **Puffin (Fratercula arctica)** **Razorbill (Alca torda)** **Guillemot (Uria aalge)**	614 (landward) 652 (across headlands) 680 (seaward)	The Foreshore Licence Application Area is within the range of the species **Fulmar (Fulmarus glacialis) and Gannet (Morus bassanus)** at the Noss SPA. A source-pathway-receptor connection is possible for these SCIs, who could move into the investigation	**Y (Fulmar (Fulmarus glacialis) Gannet (Morus bassanus)** **N (Kittiwake (Rissa tridactyla) Puffin**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All FLA site investigation activities area located outside of the mean maximum foraging ranges, landward and seaward distances, for **Kittiwake (Rissa tridactyla), Puffin (Fratercula arctica), Razorbill (Alca torda) and Guillemot (Uria aalge) SCIs**. Therefore, there is no other source-pathway-receptor connection for these SCIs at Noss SPA.	**(Fratercula arctica) Razorbill (Alca torda) Guillemot (Uria aalge)**
Rousay SPA (UK9002371)	**Fulmar (Fulmarus glacialis) Kittiwake (Rissa tridactyla) Guillemot (Uria aalge) Arctic tern (Sterna paradisaea)**	460 (landward) 485 (across headland) 502 (seaway)	The Foreshore Licence Application Area is within the range of the species **Fulmar (Fulmarus glacialis) SCI** at Rousay SPA. A source-pathway-receptor connection is possible for this SCI,	**Y (Fulmar (*Fulmarus glacialis*) SCIs** **N (Kittiwake (*Rissa tridactyla*) Guillemot (*Uria*

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to noise as a result of investigation activities and disturbance during the breeding season. All FLA site investigation activities area located outside of the mean maximum foraging ranges, landward and seaward distances, for the **Kittiwake (Rissa tridactyla), Guillemot (Uria aalge) and Arctic tern (Sterna paradisaea) SCIs**. Therefore, there is no other source-pathway-receptor connection to the Rousay SPA.	***aalge*)** **Arctic tern (*Sterna paradisaea*) SCIs**
Rum SPA (UK9001314)	**Manx shearwater (*Puffinus puffinus*)** **Kittiwake (*Rissa tridactyla*)** **Guillemot (*Uria aalge*)**	145 (landward) 150 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species **Manx Shearwater (*Puffinus puffinus*), Kittiwake (*Rissa tridactyla*) and Guillemot (*Uria aalge*)** for the Rum SPA. A source-pathway-receptor connection is possible for these	**Y Manx shearwater (*Puffinus puffinus*)** **Kittiwake (*Rissa tridactyla*)** **Guillemot (*Uria aalge*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	
Skomer, Skokholm and the Seas off Pembrokeshire SPA (UK9014051)	**Manx shearwater (*Puffinus puffinus*)** **European storm petrel (*Hydrobates pelagicus*)** **Puffin (*Fratercula arctica*)** **Lesser black-backed Gull (*Larus fuscus*)**	415.87	The Foreshore Licence Application Area is within the range of the pelagic bird, species **Manx Shearwater (*Puffinus puffinus*)** at the Skomer, Skoholm and Seas off the Pembrokeshire SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All FLA site investigation activities area located outside of the mean maximum foraging ranges, landward and seaward	**Y (Manx shearwater (*Puffinus puffinus*) SCIs** **N (European storm petrel (*Hydrobates pelagicus*)** **Puffin (*Fratercula arctica*)** **Lesser black-backed Gull (*Larus fuscus*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			distances, for the pelagic bird species of **European storm petrel (*Hydrobates pelagicus*), Puffin (*Fratercula arctica*) and Lesser black-backed Gull (*Larus fuscus*)**. Therefore, there is no other source-pathway-receptor connection for these bird species at the Skomer, Skoholm and Seas off the Pembrokeshire SPA.	
St Kilda SPA (UK9001031)	**Fulmar (*Fulmarus glacialis*)** **Gannet (*Morus bassanus*)** **Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arctica*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria aal*ge)**	245	The Foreshore Licence Application Area is within the range of the pelagic species **Fulmar (*Fulmarus glacialis*), Gannet (*Morus bassanus*), and Kittiwake (*Rissa tridactyla*)** at the St Kilda SPA. A source-pathway-receptor connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise	**Y Fulmar (*Fulmarus glacialis*), Gannet (*Morus bassanus*), and Kittiwake (*Rissa tridactyla*) SCIs** **N (Puffin (*Fratercula arctica*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria aal*ge) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			from investigation activities. All FLA site investigation activities area located outside of the mean maximum foraging ranges, landward and seaward distances, for the pelagic bird species of **Puffin (*Fratercula arctica*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria aalge*) SCIs**. Therefore, there is no other source-pathway-receptor connection to St Kilda SPA.	
Sule Skerry and Sule Stack SPA (UK9002181)	**Gannet (*Morus bassanus*)** **Puffin (*Fratercula arctica*)** **Guillemot (*Uria aalge*)**	406 (landward) 423 (seaward)	The Foreshore Licence Application Area is within the range of the species **Gannet (Morus bassanus)** at the Sule Skerry and Sule Stack SPA. A source-pathway-receptor connection is possible for the SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All FLA site	**Y (Gannet (*Morus bassanus*) SCI** **N (Puffin (*Fratercula arctica*) Guillemot (*Uria aalge*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			investigation activities area located outside of the mean maximum foraging ranges, landward and seaward distances, for the pelagic bird species of **Puffin (*Fratercula arctica*) and Guillemot (*Uria aalge*) SCIs**. Therefore, there is no other source-pathway-receptor connection to Sule Skerry and Sule Stack SPA.	
Sumburgh Head (UK9002511)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)** **Guillemot (*Uria aalge*)**	581 (landward) 634 (seaward)	The Foreshore Licence Application Area is within the range of the pelagic bird species of **Fulmar (*Fulmar glacialis*) SCI**. A source-pathway-receptor connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All FLA site investigation activities area located outside of the mean maximum	**Y (Fulmar (*Fulmar glacialis*) SCI** **N (Kittiwake (*Rissa tridactyla*) and Guillemot (*Uria aalge*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			foraging ranges, landward and seaward, for the pelagic bird species of **Kittiwake (*Rissa tridactyla*) and Guillemot (*Uria aalge*) SCIs**. Therefore, there is no other source-pathway-receptor connection with these bird species at the Sumburgh Head SPA.	
The Shiant Isles SPA (UK9001041)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)** **Puffin (*Fratercula arctica*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria aalge*)**	250	The Foreshore Licence Application Area is within the range of the pelagic bird species of **Fulmar (*Fulmar glacialis*) and Kittiwake (*Rissa tridactyla*)** at The Shiant Isles SPA. A source-pathway-receptor connection is possible for these SCIs, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities. All FLA site investigation activities area located outside of the mean maximum	**Y (Fulmar (*Fulmar glacialis*) and Kittiwake (*Rissa tridactyla*) SCIs** **N (Puffin (*Fratercula arctica*), Razorbill (*Alca torda*) and Guillemot (*Uria aalge*)**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			foraging ranges for the pelagic bird species of **Puffin (*Fratercula arctica*), Razorbill (*Alca torda*) and Guillemot (*Uria aalge*) SCIs**. Therefore, there is no source-pathway-receptor connection for the relevant bird species at The Shiant Isles SPA.	
West Westray SPA (UK9002101)	**Fulmar (*Fulmarus glacialis*)** **Kittiwake (*Rissa tridactyla*)** **Razorbill (*Alca torda*)** **Guillemot (*Uria aalge*)**	476 (landward) 492 (across headland) 515 (seaward)	The Foreshore Licence Application Area is within the range of the species **Fulmar (*Fulmar glacialis*)** at the West Westray SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. All FLA site investigation activities area located outside of the mean maximum foraging ranges, landward and seaward, for the pelagic bird species of **Kittiwake (*Rissa tridactyla*), Razorbill**	**Y (Fulmar (*Fulmar glacialis*) SCI** **N (Kittiwake (*Rissa tridactyla*), Razorbill (*Alca torda*) and Guillemot (*Uria aalge*) SCIs**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			(*Alca torda*) and Guillemot (*Uria aalge*) SCIs. Therefore, there is no other source-pathway-receptor connection for the pelagic bird species at the West Westray SPA.	
Upper Soloway Flats and Marshes (UK90005012)	**Herring Gull (*Larus argentatus)* Common Gull (*Larus canus*) Cormorant (*Phalacrocorax carbo)***	195 (landward) 238 (Seaward)	The Foreshore Licence Application Area is outside the mean maximum foraging range of the pelagic bird species **Herring Gull (*Larus argentatus),* Common Gull (*Larus canus*) and Cormorant (*Phalacrocorax carbo)* SCIs** at Upper Soloway Flats and Marshes SPA. Therefore, there is no source-pathway-receptor connection for the Upper Soloway Flats and Marches SPA and its designated bird SCIs.	**N (Herring Gull (*Larus argentatus)* Common Gull (*Larus canus*) Cormorant (*Phalacrocorax carbo)***
Archipel de Glénan SPA (FR5310057)	**Manx shearwater (*Puffinus puffinus*)**	840 (landward) 1164 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Archipel de Glénan SPA.	**Y (Manx shearwater (*Puffinus puffinus*) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season.	
Côte de Grant Rose-Sept-Iles SPA (FR5310011)	**Manx shearwater (*Puffinus puffinus*)**	723 (landward) 838 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Côte de Grant Rose-Sept-Iles SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx shearwater (*Puffinus puffinus*) SCI**
Pertuis Charentais - Rochebonne SPA (FR5412026)	**Manx shearwater (*Puffinus puffinus*)**	1032 (landward) 1109 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Pertuis Charentais – Rochebonne SPA.	**Y (Manx shearwater (*Puffinus puffinus*) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	
Roches de Penmarch (FR5312009)	**Manx shearwater (*Puffinus puffinus*)**	836 (landward) 913 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Roches de Penmarch SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx shearwater (*Puffinus puffinus*) SCI**
Mers Celtiques – Talus du golfe de Gascogne SPA (FR5212016)	**Manx shearwater (*Puffinus puffinus*)**	670 (landward) 758	The Foreshore Licence Application Area is within the range of the species **Manx**	**Y (Manx shearwater (*Puffinus puffinus*) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
		(seaward)	**Shearwater (Puffinus puffinus)** at the Mers Celtiques – Talus du golfe de Gascogne SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	
Nord Bretagne DO SPA (FR2512005)	**Manx shearwater (*Puffinus puffinus*)**	664 (landward) 801 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Nord Bretagne DO SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx Shearwater (Puffinus puffinus) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
Estuaire de la Loire SPA (FR5210103)	**Manx shearwater (*Puffinus puffinus*)**	946 (landward) 1143 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Estuaire de la Loire SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season.	**Y (Manx Shearwater (*Puffinus puffinus*) SCI**
Ouessant-Molène SPA (FR5310072)	**Manx shearwater (*Puffinus puffinus*)**	751 (landward) 823 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Ouessant-Molène SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx shearwater (*Puffinus puffinus*) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
Littoral seino-marin SPA (FR2310045)	**Manx shearwater (*Puffinus puffinus*)**	775 (landward) 1041 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Ouessant-Molène SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx Shearwater (Puffinus puffinus) SCI**
Littoral augeron SPA (FR2512001)	**Manx shearwater (*Puffinus puffinus*)**	809 (landward) 1048 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Littoral augeron SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise	**Y (Manx Shearwater (*Puffinus puffinus*) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			from investigation activities.	
Mor Braz SPA (FR5212013)	**Manx shearwater (*Puffinus puffinus*)**	915 (landward) 1118 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Mor Braz SPA. A source-pathway-receptor connection is possible for the SCI who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx Shearwater (*Puffinus puffinus*) SCI**
Secteur marin de l'île d'Yue jusqu'au continent SPA (FR5212015)	**Manx shearwater (*Puffinus puffinus*)**	985 (landward) 1150 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at the Secteur marin de l'île d'Yue jusqu'au continent SPA. A source-pathway-receptor connection is possible for the SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding	**Y (Manx Shearwater (Puffinus puffinus) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			season. Diving birds could also be impacted by underwater noise from investigation activities.	
Bai de Vilaine SPA (FR5310074)	**Manx shearwater (*Puffinus puffinus*)**	912 (landward) 1084 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus) SCI** at the Bai de Vilaine SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx Shearwater (Puffinus puffinus) SCI**
Estuaire de la Bidassoa et baie de Fontarabie SPA (FR7212013)	**Manx shearwater (*Puffinus puffinus*)**	1360 (landward) 1461 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus) SCI** at the Estuaire del la Bidassoa et baie de Fontarabie SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual	**Y (Manx Shearwater (Puffinus puffinus) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	
Illes Houat-Hoëdic SPA (FR5312011)	**Manx shearwater (*Puffinus puffinus*)**	910 (landward) 1101 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus) SCI** at the Iles Houat-Hoëdic SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx Shearwater (Puffinus puffinus) SCI**
Chausey SPA (FR2510037)	**Manx shearwater (*Puffinus puffinus*)**	803 (landward) 970 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus) SCI** at the Chausey SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could	**Y (Manx Shearwater (Puffinus puffinus) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	
Urdaibiko itsaasadarra/Ría de Urdaibai (ES0000144)	**Manx shearwater (*Puffinus puffinus*)**	1341 (landward) 1483 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus) SCI** at the Urdiabiko itsaasadarra/Ría de Urdaibai SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx Shearwater (Puffinus puffinus) SCI**
Cabo Busto-Luanco (ES0000318)	**Manx shearwater (*Puffinus puffinus*)**	1285 (landward) 1375 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus) SCI** at the	**Y (Manx Shearwater (Puffinus puffinus) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			Cabo Busto-Luanco SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	
Espacio marino de Cabo Peñas (ES0000494)	**Manx shearwater (*Puffinus puffinus*)**	1265 (landward) 1362 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus) SCI** at Espacio marino de Cabo Peñas SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx Shearwater (Puffinus puffinus) SCI**
Espacio marino de Punta de Candelaria-	Manx shearwater	1246	The Foreshore Licence Application Area is	**Y (Manx Shearwater**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
Ría de Ortiguiera - Estaca de Bares (ES0000495)	(*Puffinus puffinus*)	(landward) 1348 (seaward)	within the range of the species **Manx Shearwater (Puffinus puffinus) SCI** at Espacio marino de Punta de Candelaria-Ría SPA. A source-pathway-receptor connection is possible for the Manx Shearwater who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**(Puffinus puffinus) SCI**
Espacio marin de la Costa de Morte (ES000497)	**Manx shearwater (*Puffinus puffinus*)**	1277 (landward) 1390 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus) SCI** at Espacio marino de Punta de Candelaria-Ría SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by	**Y Manx Shearwater (Puffinus puffinus) SCI**

Site Name (Site Code)	Qualifying Interest/Special Conservation Interest	Distance from FLA area (km)	Source-Pathway-Receptor Connections	Considered further in screening Y/N
			underwater noise from investigation activities.	
Espacio marino de las Rías Baixas del Galicia (ES0000499)	**Manx shearwater (*Puffinus puffinus*)**	1340 (landward) 1535 (seaward)	The Foreshore Licence Application Area is within the range of the species **Manx Shearwater (Puffinus puffinus)** at Espacio marino de las Rías del Galicia SPA. A source-pathway-receptor connection is possible for this SCI, who could move into the investigation area and be impacted by visual and noise disturbance, disturbance due to investigation activities and disturbance during the breeding season. Diving birds could also be impacted by underwater noise from investigation activities.	**Y (Manx Shearwater (Puffinus puffinus) SCI**

Table 5-3 SACs and their designated relevant Qualifying interests for further assessment

Site Name and Code	Qualifying Interests
North Inishowen Coast SAC (IE0002012)	**Lutra lutra *(Otter) [1355]***
Horn Head and Rinclevan SAC (IE000147)	**Halichoerus grypus (Grey Seal) [1364]**
Mulroy Bay SAC (IE0002159)	**Lutra lutra (Otter) [1355]**
Ballysadare Bay SAC (IE000062)	**Phoca vitulina (Harbour Seal) [1365]**
Killala Bay/Moy Estuary SAC (IE0000458)	**Petromyzon marinus (Sea Lamprey) [1095]**
	Phoca vitulina (Harbour Seal) [1365]
Slieve Tooey/Tormore Island/Loughros Beg Bay SAC (IE0000190)	**Lutra lutra (Otter) [1355]**
	Halichoerus grypus (Grey Seal) [1364]
West of Ardara/Maas Road SAC (IE0000197)	**Phoca vitulina (Harbour Seal) [1365]**
Donegal Bay Muvagh SAC (IE0000133)	**Phoca vitulina (Harbour Seal) [1365]**
Lennan River SAC (IE0002176)	**Lutra lutra *(Otter) [1355]***
Skerries and Causeway SAC (UK) (UK0030383)	**Harbour Porpoise (Phocoena phocoena)**
Inner Hebrides and the Minches SAC (UK) (UK0030397)	**Harbour Porpoise (Phocoena phocoena)**

South-East Islay Skerries (UK) (UK0030067)	Halichoerus grypus (Grey Seal) [1364]
Mers Celtiques – Talus du Golfe de Gascogne SAC (FR5302015)	Harbour Porpoise (Phocoena phocoena)
The Maidens (UK0030384)	Halichoerus grypus (Grey Seal) [1364]
Slyne Head Peninsula SAC (IE0002074)	Tursiops truncatus (Common Bottlenose Dolphin) [1349
Duvillaun Islands SAC (IE000495)	Tursiops truncatus (Common Bottlenose Dolphin) [1349]
Slyne Islands Head SAC (IE000328)	Tursiops truncatus (Common Bottlenose Dolphin) [1349]
Lower River Shannon SAC (IE0002165)	Tursiops truncatus (Common Bottlenose Dolphin) [1349]
Lough Swilly SAC (IE0002287)	Estuaries [1130]
North Inishowen Coast SAC (IE0002012)	Mudflats and Sandflats not covered by seawater at low tide [1140]

Table 5-4 SPAs and their designated Qualifying Interests for further assessment

Site Name and Code	Qualifying Interests
Inishtrahull SPA (IE0004100)	Shag (Phalaxrocorax aristotellis) [A018]
Lough Swilly SPA (IE0004075)	Wetland and Waterbirds [A999]
Horn Head to Fanad Head SPA (IE0004194)	Fulmar (Fulmarus glacialis) [A009]
	Kittiwake (Rissa tridactyla) [A188]
	Guillemot (Uria aalge) [A199]
	Razorbill (Alca torda) [A200]
	Cormorant (Phalacrocorax carbo) [A017]
Lough Foyle SPA (IE0004087)	Wetland and Waterbirds [A999]
Lough Fern SPA (IE0004060)	Wetland and Waterbirds [A999]
Greers Isle SPA (IE0004082)	Common Gull (Larus canus) [A179]
Tory Island SPA (IE0004073)	Fulmar (Fulmarus glacialis) [A009]
	Razorbill (Alca torda) [A200]
	Puffin (Fratercula arctica) [A204]
West Donegal Coast SPA (IE0004150)	Fulmar (Fulmarus glacialis) [A009]
	Kittiwake (Rissa tridactyla) [A188]
	Herring Gull (Larus argentatus) [A184]
	Razorbill (Alca torda) [A200]
Lambay Island SPA (IE0004069)	Fulmar (Fulmarus glacialis) [A009]
	Kittiwake (Rissa tridactyla) [A188]
Ireland's Eye SPA (IE0004117)	Kittiwake (Rissa tridactyla) [A188]
Howth Head Coast SPA (IE0004113)	Kittiwake (Rissa tridactyla) [A188]
Poulaphouca Reservoir SPA (IE0004063)	Lesser Black-backed Gull (Larus fuscus) [A183]
Wicklow Head SPA (IE0004127)	Kittiwake (Rissa tridactyla) [A188]
Saltee Islands SPA (IE0004002)	Fulmar (Fulmar glacialis) [A009]

	Gannet (Morus bassanus) [A016]
Beara Peninsula SPA (IE0004155)	Fulmar (Fulmar glacialis) [A009]
The Bull and the Cow Rocks SPA (IE0004066)	Gannet (Morus bassanus) [A016]
Deenish Island and Scariff Island SPA (IE0004175)	Fulmar (Fulmar glacialis) [A009]
	Manx Shearwater (Puffinus puffinus) [A013]
Blasket Islands SPA (IE0004008)	Fulmar (Fulmarus glacialis) [A009]
	Manx Shearwater (Puffinus puffinus) [A013]
Skelligs SPA (IE0004007)	Fulmar (Fulmarus glacialis) [A009]
	Manx Shearwater (Puffinus puffinus) [A013]
Puffin Island SPA (IE0004003)	Fulmar (Fulmarus glacialis) [A009]
	Manx Shearwater (Puffinus puffinus) [A013]
Iveragh Peninsula SPA (IE0004154)	Fulmar (Fulmarus glacialis) [A009]
Dingle Peninsula SPA (IE0004153)	Fulmar (Fulmarus glacialis) [A009]
Cliffs of Moher SPA (IE0004005)	Fulmar (Fulmarus glacialis) [A009]
	Kittiwake (Rissa tridactyla) [A188]
	Puffin (Fratercula arctica) [A204]
Inishmore SPA (IE0004152)	Kittiwake (Rissa tridactyla) [A188]
Cruagh Island SPA (IE0004170)	Manx Shearwater (Puffinus puffinus) [A013]
High Island, Inishshark and Davillaun SPA (IE0004144)	Fulmar (Fulmarus glacialis) [A009]
Clare Island SPA (IE0004136)	Fulmar (Fulmarus glacialis) [A009]
	Kittiwake (Rissa tridactyla) [A188]
Bills Rock SPA (IE0004177)	Puffin (Fratercula arctica) [A204]
Duvillan Islands SPA (IE000411)	Fulmar (Fulmarus glacialis) [A009]
Aughris Head SPA (IE0004133)	Kittiwake (Rissa tridactyla) [A188]
West Donegal Coast SPA (IE0004150)	Fulmar (Fulmarus glacialis) [A009]
	Kittiwake (Rissa tridactyla) [A188]
	Razorbill (Alca torda) [A200]
Roaninish SPA (IE0004121)	Herring Gull (Larus argentatus) [A184]
Alisa Craig SPA UK9003091	Gannet (Morus Bassana)
	Kittiwake (Rissa tridactyla)
	Lesser Black-backed Gull (Larus fuscus)
	Guillemot (Uria aalge)
Calf of Eday SPA (UK9002431)	Fulmar (Fulmarus glacialis)
	Kittiwake (Rissa tridactyla)
Copinsay SPA (UK9002151)	Fulmar (Fulmarus glacialis
East Caithness Cliffs SPA (UK9001182)	Fulmar (Fulmarus glacialis)
Flannan Isles SPA (UK9001021)	Fulmar (Fulmarus glacialis)
	Kittiwake (Rissa tridactyla)
Forth Islands SPA (UK9004171)	Gannet (Morus bassana)

Foula SPA (UK9002061)	Fulmar (Fulmarus glacialis)
Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA (UK903121)	Manx shearwater (puffinus puffinus)
Grassholm SPA (UK9014041)	Gannet (Morus bassana)
Handa SPA (UK9001241)	Fulmar (Fulmarus glacialis)
Hermaness, Saxa Vord and Valla Field SPA (UK9002011)	Fulmar (Fulmarus glacialis)
	Gannet (Morus bassana)
Hoy SPA (UK9002141)	Fulmar (Fulmarus glacialis)
Irish Sea Front (UK9020328)	Manx shearwater (Puffinus puffinus)
Mingulay and Berneray (UK9001121)	Fulmar (Fulmarus glacialis)
	Kittiwake (Rissa tridactyla)
	Puffin (Fratercula arctica)
	Razorbill (Alca torda)
	Guillemot (Uria aalge)
North Caithness Cliffs SPA (UK9001181)	Fulmar (Fulmarus glacialis)
North Colonsay and Western Cliffs SPA (UK9003171)	Kittiwake (Rissa tridactyla)
	Guillemot (Uria aalge)
North Rona and Sula Sgeir SPA (UK9001011)	Fulmar (Fulmarus glacialis)
	Gannet (Morus bassanus)
Noss SPA (UK9002081)	Fulmar (Fulmarus glacialis)
	Gannet (Morus bassanus)
Rousay SPA (UK9002371)	Fulmar (Fulmarus glacialis)
Rum SPA (UK9001314)	Manx shearwater (Puffinus puffinus)
	Kittiwake (Rissa tridactyla)
	Guillemot (Uria aalge)
Skomer, Skokholm and the Seas off Pembrokeshire SPA (UK9014051)	Manx shearwater (Puffinus puffinus)
	European storm petrel (Hydrobates pelagicus)
St Kilda SPA (UK9001031)	Fulmar (Fulmarus glacialis)
	Gannet (Morus bassanus)
	Kittiwake (Rissa tridactyla)
Sule Skerry and Sule Stack SPA (UK9002181)	Gannet (Morus bassanus)
Sumburgh Head SPA (UK9002511)	Fulmar (Fulmarus glacialis)
The Shiant Isles SPA (UK9001041)	Fulmar (Fulmarus glacialis)
	Kittiwake (Rissa tridactyla)
West Westray SPA (UK9002101)	Fulmar (Fulmarus glacialis)
Archipel de Glénan SPA (FR5310057)	Manx shearwater (Puffinus puffinus)
Côte de Grant Rose-Sept-Iles SPA (FR5310011)	Manx shearwater (Puffinus puffinus)
Pertuis Charentais -Rochebonne SPA (FR5412026)	Manx shearwater (Puffinus puffinus)
Roches de Penmarch (FR5312009)	Manx shearwater (Puffinus puffinus)
Mers Celtiques – Talus du golfe de Gascogne SPA (FR5212016)	Manx shearwater (Puffinus puffinus)
Nord Bretagne DO SPA (FR2512005)	Manx shearwater (Puffinus puffinus)
Estuaire de la Loire SPA (FR5210103)	Manx shearwater (Puffinus puffinus)
Ouessant-Molène SPA (FR5310072)	Manx shearwater (Puffinus puffinus)
Littoral seino-marin SPA (FR2310045)	Manx shearwater (Puffinus puffinus)
Littoral augeron SPA (FR2512001)	Manx shearwater (Puffinus puffinus)

Mor Braz SPA (FR5212013)	Manx shearwater (Puffinus puffinus)
Secteur marin de l'île d'Yue jusqu'au continent SPA (FR5212015)	Manx shearwater (Puffinus puffinus)
Bai de Vilaine SPA (FR5310074)	Manx shearwater (Puffinus puffinus)
Estuaire de la Bidassoa et baie de Fontarabie SPA (FR7212013)	Manx shearwater (Puffinus puffinus)
Illes Houat-Hoëdic SPA (FR5312011)	Manx shearwater (Puffinus puffinus)
Chausey SPA (FR2510037)	Manx shearwater (Puffinus puffinus)
Urdaibiko itsaasadarra/Ría de Urdaibai (ES0000144)	Manx shearwater (Puffinus puffinus)
Cabo Busto-Luanco (ES0000318)	Manx shearwater (Puffinus puffinus)
Espacio marino de Cabo Peñas (ES0000494)	Manx shearwater (Puffinus puffinus)
Espacio marino de Punta de Candelaria-Ría de OrtiguieraEstaca de Bares (ES0000495)	Manx shearwater (Puffinus puffinus)
Espacio marin de la Costa de Morte (ES000497)	Manx shearwater (Puffinus puffinus)
Espacio marino de las Rías Baixas del Galicia (ES0000499)	Manx shearwater (Puffinus puffinus)

6 Assessment of Likely Significant Impacts

6.1 Disturbance from Vibration and Underwater Noise Associated with Surveys

The physical presence of the survey vessel and the site investigation activities may introduce vibration and noise to the underwater environment which may impact marine mammals, fish and birds designated as QI's and SCIs in Natura 2000 sites in the zone of influence of the proposed site investigation activities.

6.1.1 Marine Mammals

Both cetaceans and pinnipeds have evolved to use sound as an important aid in navigation, communication, and hunting (Richardson et al., 1995). It is widely accepted that the main environmental concern relating to marine mammals is the potential effects of anthropogenic underwater noise (see Nowacek et al., 2007 for review). Exposure to noise can induce a range of effects on marine mammals: physical effects may include a temporary reduction in hearing sensitivity (Temporary Threshold Shift-TTS) which is reversible over time; or following intense noise exposure, Permanent Threshold Shift-(PTS). Other effects include masking of biologically important noises by anthropogenic noise (perceptual effects); behavioural changes such as displacement from feeding, resting, or breeding grounds; and stress (Southall et al., 2007, Southall et al., 2019).

Acoustic instruments and equipment used in marine site investigations produce sound at frequencies within the hearing range of marine mammals (Nowacek et al., 2007).

Noise characteristics of the proposed site investigation activities are detailed in table 6-1 below.

Table 6-1 Noise sources during site investigation activities

Noise Source	Frequency (kHz)	Sound Pressure Level (dB re 1µPa @ 1m)
Shipping Noise	0.05 – 0.3	160-175
Multibeam echosounder (MBES)	200 - 700	200-228
Side scan sonar (SSS)	200 - 900	228
Pinger (Sub-bottom Profiler, SBP)	2 - 16	200
Boomer (SBP)	2.5	208 - 211
Geotechnical drilling (Rotary)	0.001 - 10	160

The following auditory band widths for marine mammals which may be present in the vicinity of the Foreshore Licence Application area are from Southall *et al*. (2007) cited in the DAHG (2014) guidance and are shown in Table 6-1. There is not data available for Eurasian otter, therefore underwater auditory detection thresholds are given for sea otter (*Enhydra lutris*) (Ghoul & Reichmuth, 2014).

Table 6-2 Underwater Auditory Band Width for Marine Mammal Species (Southall et al., 2007) and Sea otter (Ghoul & Reichmuth, 2014)

Frequency	Marine Mammal/Species	Estimated Auditory Band Width (kHz)	Audible Survey
Low Frequency Cetaceans	Baleen whales (Minke whale, Humpback whale)	0.007 - 22	Shipping, SBP, Drilling
Mid Frequency Cetaceans	Most toothed whales and dolphins (including Common & Risso's Dolphin)	0.15 - 160	Shipping, SBP, Drilling
High Frequency Cetaceans	Certain toothed whales and porpoises (including Harbour porpoise)	0.2 - 180	Shipping, SBP, Drilling
Low Frequency Pinnipeds in water	Grey seal & harbour seal	0.075 - 75	Shipping, SBP, Drilling

Comparing the data on species auditory band width (Table 6-2) and the noise characteristics of the surveys (Table 6-1) it is deemed that the following will be audible to marine mammals (including otters):

- Shipping noise
- Sub-Bottom Profiler (SBP)
- Drilling

The survey types which emit noise within the audible band width for marine mammals are presented in Table 6-3.

Table 6-3 Marine mammal species auditory band width and relevant surveys; marine mammals known in the area are also listed.

Frequency	Marine mammal/Species	Estimated Auditory Band Width (kHz)	Audible Survey
Low Frequency Cetaceans	Baleen whales (Minke Whale, Humpback Whale)	0.007 – 22	Shipping, SBP, Drilling
Mid Frequency Cetaceans	Most toothed whales and dolphins (Common & Risso's Dolphin)	0.15 - 160	Shipping, SBP, Drilling
High Frequency Cetaceans	Certain toothed whales, porpoises (Harbour porpoise)	0.2 - 180	Shipping, SBP, Drilling
Low Frequency	Sea otter	0.125 – 38	Shipping, SBP, Drilling
Low Frequency Pinnipeds in water	Grey Seal Harbour Seal	0.075 - 75	Shipping, SBP, Drilling

For each of these groups, sound pressure levels that would result in injury (PTS or TTS) were proposed for individuals exposed to single, multiple and non-pulsed sources (Table 6-4), from Southall *et al.* (2007). Note sea otter have not been included in the SPL injury criteria proposed by Southall *et al*. (2007) however as their Estimated Auditory Band Width is within that of the low frequency pinnipeds in water, the pinnipeds (in water) criteria have been used as a proxy for sea otter.

Table 6-4 Sound Pressure Level (SPL) injury criteria proposed by Southall et al. (2007), for individual marine mammals exposed to discrete noise events

Marine Mammal group	Injury Criteria	
	TTS	PTS
Low-Frequency Cetaceans (Baleen whales)	224dB re: 1µPa (peak)	230dB re: 1µPa (peak)
Mid-Frequency Cetaceans (including Bottlenose dolphins)	224dB re: 1µPa (peak)	230dB re: 1µPa (peak)
High Frequency Cetaceans (including harbour porpoise)	224dB re: 1µPa (peak)	230dB re: 1µPa (peak)
Pinnipeds and sea otter (in water)	212dB re: 1µPa (peak)	218 dB re: 1µPa (peak)

Depending on what frequency is used, the Sub-bottom profiler (SBP) may emit noise in an audible frequency for marine mammals which can reach a Sound Pressure Level which could cause TTS and PTS injury to all marine mammal groups and the Sparker (SBP) and Boomer (SBP) systems may emit noise in an audible frequency for marine mammals which could cause TTS injury to seals and otters in water according to the SPL injury criteria proposed by Southall et al 2007. None of the other proposed site investigation activities emit noise in an audible frequency for marine mammals which can reach a Sound Pressure Level which could cause injury to marine mammals, however continuous audible noise from drilling may cause disturbance to marine mammals so cannot be ruled out at this stage. As

significant effects on designated marine mammal species features of Natura 2000 sites due to underwater noise emitted by some of the proposed site investigation activities are therefore determined to be likely, this will be considered further in this assessment.

Table 6-5 Migratory species with a marine element for which SACs have been designated in Ireland and UK

Marine Species		
1349	bottlenose dolphin	*Tursiops truncatus*
1351	harbour porpoise	*Phocoena phocoena*
1364	grey seal	*Halichoerus grypus*
1365	common (Harbour) seal	*Phoca vitulina*
Marine/freshwater Species		
1095	sea lamprey	*Petromyzon marinus*
1099	river lamprey	*Lampetra fluviatilis*
1103	Twaite shad	*Alosa fallax fallax*
1106	Atlantic salmon	*Salmo salar*
1355	Eurasian Otter	*Lutra lutra*

6.1.2 Fish

Fish use either particle motion or sound pressure for detecting sound; while all fish detect and use particle motion hearing it is the presence of ancillary hearing structures that determines their hearing sensitivity. Only a subset of fish can detect sound pressure (Putland et al, 2018).

In general, fish species without a swim bladder (i.e. lamprey, sharks, some flatfish and tunas), or those that have small or reduced swim bladders (i.e. typically benthic species, including some flatfish), tend to have relatively poor auditory sensitivity and generally cannot hear sounds at frequencies above 1 kHz. Hearing for these fish involves particle motion, not sound pressure (NOAA, 2016).

Fish species with anatomical specializations between the swim bladder and the ear generally have lower thresholds and wider hearing bandwidths than species without such specializations and may have greater ability to detect, and therefore respond to, sound pressure. This is the case of fish belonging to clupeiform species (e.g., shad, herring, sardines, and alewives). Clupeids of the shad family (Alosinae) in particular, have shown sensitivity to a range of frequencies that can extend to >100 kHz. (Mann *et al*., 2001). Teague & Clough (2011) recorded positive significant reactions in juvenile twaite shad to sound frequencies of between 30 and 60 kHz with a peak at 45kHz. Behavioural studies of the responses of American shad to ultrasound (Mann *et al.*, 2001; Popper *et al*., 2004) demonstrate that they show a graded series of responses depending on the sound level and, to a lesser degree, on the frequency of the stimulus. Low-intensity stimuli elicit a non-directional movement of the fish, whereas somewhat higher sound levels elicit a directional movement away from the sound source and still higher-level sounds produce a ‘‘wild’’ chaotic movement of the fish.

Fish that possess swim bladders but with no special adaptations typically do not show a comparable degree of hearing sensitivity to shad. For example, Atlantic Salmon (*Salmo salar*) have poor hearing

sensitivity and are only capable of detecting low frequency tones (below 380 Hz) and particle motion rather than sound pressure (NOAA, 2016).

Mickle et al (2009) tested auditory responses in the sea lamprey, which do not possess swim bladders, and found sea lampreys can detect noise frequencies of 50–300 Hz with equal sensitivity but did not detect sounds above 300Hz.

While shipping noise is likely audible to lamprey and salmon neither are sensitive to sound pressure.

Temporary threshold shift (TTS) is a non-injurious temporary reduction in hearing sensitivity caused by exposure to intense sound. TTS has been documented in some fish, though only after multiple exposures to intense sounds (e.g. 190 dB re 1 µPa rms) or as a result of long-term exposure (e.g. tens of minutes or hours) to less intense sounds (Popper & Hawkins, 2019). Popper & Hawkins (2019) suggest that, as sensory hair cells are constantly added in fish and replaced when damaged, both hearing specialists and generalists were able to recover from varying levels of substantial TTS in less than 18 hours after exposure. Permanent hearing loss has not been documented in fish (NOAA, 2016).

Popper & Hawkins (2019) suggest that exposure to very high intensity low and mid-frequency sonars and seismic airguns does not result in mortality in fish. They found that fish experienced damage to body tissues (i.e. barotrauma) after receiving high intensity impulsive sounds.

As the site investigation activities will not produce high intensity impulsive noise only fish species that use sound pressure to hear may be impacted by the site investigation activities. Twaite shad may therefore be impacted by some of the geophysical site investigation activities and shipping noise. Given that twaite, allis and the American shad are in the same genus (Alosa) and are morphometrically similar, allis shad may be similarly sensitive to underwater noise.

Significant effects on designated allis shad fish species features of Natura 2000 sites due to for low frequency (up to 100 kHz) high SPL (> 190 dB re 1 µPa rms) underwater noise emitted by shipping, SBP, HESS and drilling are therefore considered **likely** and will be considered further in this assessment. Significant effects on all other designated fish species features of Natura 2000 sites due to underwater noise emitted by all other proposed site investigation activities are considered highly **unlikely**.

6.1.3 Birds

Diving seabirds have an underwater hearing range of approximately 500Hz to 4kHz (Crowell 2014, Crowell et al. 2015, Hansen et al. 2017). McCauley (1994) inferred from vocalisation ranges that the threshold of perception for low frequency seismic noise in some species (e.g. penguins, considered as a proxy for auk species) could be high, hence individuals could be adversely affected in close proximity to a low frequency seismic noise source.

The diving bird species listed in Table 3-5 are known to engage in pursuit diving or benthic feeding in marine, coastal and estuarine waters at least during part of the year and as such may be vulnerable to underwater noise.

Table 6-6 Migratory and/or Annex I diving bird species considered potentially vulnerable to underwater noise

Migratory and/or Annex I diving bird species considered potentially vulnerable to underwater noise effects		
Divers and grebes	**Seabirds**	**Diving ducks**
Great northern diver *Gavia immer*	Manx shearwater *Puffinus puffinus*	Pochard *Aythya ferina*
Red-throated diver *Gavia stellata*	Gannet *Morus bassanus*	Tufted duck *Aythya fuligula*
Black-throated diver *Gavia arctica*	Cormorant *Phalacrocorax carbo carbo*	Scaup *Aythya marila*
Little grebe *Tachybaptus ruficollis*	Shag *Phalacrocorax aristotelis*	Eider *Somateria mollissima*
Great crested grebe *Podiceps cristatus*	Guillemot *Uria aalge*	Long-tailed duck *Clangula hyemalis*
Slavonian grebe *Podiceps auritus*	Razorbill *Alca torda*	Common scoter *Melanitta nigra*
	Puffin *Fratercula arctica*	Velvet scoter *Melanitta fusca*
		Goldeneye *Bucephala clangula*
		Red-breasted merganser *Mergus serrator*
		Goosander *Mergus merganser*

Very high amplitude low frequency underwater noise may result in acute trauma to diving seabirds, with several studies reporting mortality of diving birds in close proximity (i.e. tens of metres) to underwater explosions (Yelverton et al. 1973, Cooper 1982, Stemp 1985, Danil & St Leger 2011). The noise caused explosions, which is impulsive in nature, would be many magnitudes greater than that produced by the activities proposed under this application.

Direct effects from underwater seismic surveys on diving birds could potentially occur through physical damage, given exposure to sufficiently high amplitudes, or through behavioural disturbance. Deeper-diving species which spend longer periods of time underwater (e.g. auks) may be most at risk of exposure, but all species which routinely submerge in pursuit of prey and benthic feeding opportunities in marine and estuarine habitats may be exposed to anthropogenic noise (BEIS, 2019).

While changes in penguin abundance and distribution concurrent with seismic survey activity has been recorded by Pichegru et al. (2017), no significant difference was observed in abundance of thick-billed murre (Brünnich's guillemot), or fulmar or kittiwake in the Hudson Strait during shooting and non-shooting periods of seismic surveys undertaken over a three-year campaign (Stemp 1985). Mortality of seabirds has not been reported during extensive seismic operations in the North Sea and elsewhere.

While seabird responses to approaching vessels are highly variable (e.g. Fleissbach et al. 2019), flushing disturbance would be expected to displace most diving seabirds from close proximity to the survey vessel and any towed equipment, thereby limiting their exposure to the highest sound pressures generated. Similarly, any behavioural disturbance of seabirds due to the survey activities is most likely to be temporary displacement associated with the physical presence of the vessel, comparable to that experienced by routine shipping traffic as opposed to injury due to underwater noise.

Considering the lack of reported effects of underwater noise levels generated by site investigations for offshore wind data gathering purposes on diving birds, the comparatively lower amplitude source characteristics of the potential sources in the proposed site investigation activities, and the very small spatial footprint and short duration of the planned site investigation activities, significant effects on all designated bird species features of Natura 2000 sites due to underwater noise emitted by the proposed site investigation activities are considered highly **unlikely**.

6.2 Injury Due to Collision (Survey Vessels/Sampling Equipment)

The key factors contributing to collision between marine mammals and vessels are the presence of both in the same area and vessel speed (see Schoeman et al., 2020 for review). Injuries to marine mammals from vessel strikes are species-dependent but generally are more severe at higher impact speeds (Wang et al., 2007). Vessels involved in these surveys are likely to be either stationary or travelling slowly (c. 5 knots) thus allowing any animal in the area time to avoid collision.

Cetacean and pinnipeds in the area are exposed to vessels of all sizes on a regular basis due to other activities in the area including fishing and shipping. As a result, they are likely to maintain a distance from all survey vessels for the short time period of site investigation activities before returning to the area once site investigation activities have finished. Therefore, the collision risk posed by the site investigation activities is likely to be significantly lower than that posed by commercial shipping activity. A slow-moving survey vessel in the area will not pose a collision risk to seabirds foraging the area who are accustomed to vessels traversing the area.

Significant effects on designated marine mammal species features of Natura 2000 sites due to collision with vessels undertaking the proposed site investigation activities are considered highly **unlikely**.

6.3 Physical and Noise Disturbance to Birds

The following seabird species which are sensitive to physical disturbance were identified as relevant considering the location of their breeding colonies and foraging distances of these species:

- Manx shearwater *Puffinus puffinus*
- Gannet *Morus bassanus*
- Guillemot *Uria aalge*
- Razorbill *Alca torda*
- Puffin *Fratercula arctica*
- Black-legged kittiwake *Rissa tridactyla*

- Northern fulmar *Fulmarus glacialis*
- Lesser black-backed gull *Larus fuscus*
- Herring gull *Larus argentatus*
- Storm petrel *Hydrobates pelagicus*

Of these, northern gannet, fulmar, common guillemot, kittiwake, Manx shearwater and the gulls have a low to moderate sensitivity to disturbance by shipping traffic (Garthe & Hüppop, 2004; MMO, 2008, Fleissbach et al., 2019).

While rafting birds which are Qualifying Interests of SPAs within foraging range of the Application Area may move in response to vessels in transit, such effects are of low magnitude and short duration, and will represent negligible additional disturbance over other vessel movements, including existing fishing, cargo and tanker traffic.

The physical presence of the survey vessels may result in temporary disturbance to individual birds present in the immediate vicinity of the Screening Area. There is also the potential for disturbance due to the proposed site investigation activities. Birds may be disturbed by the activities during the breeding season while nesting. Disturbance causing birds to temporarily take flight may leave chicks vulnerable to predation by predators, thereby affecting the successful fledging of chicks and reducing the reproduction rate. However, breeding birds in the area are habituated to vessel movements in and out of Lough Swilly Harbour, which is a busy shipping area subject to multiple vessel movements every day, and other local harbours. As there is existing shipping activity in the region, birds are already accustomed to physical disturbance from marine traffic, therefore the introduction of a small number of slow-moving additional vessels is not likely to cause significant disturbance.

Significant effects on designated bird species features of Natura 2000 sites due to physical and noise disturbance caused by the proposed site investigation activities are considered highly **unlikely**.

The relevant SPAs are listed in Appendix II, including their sensitivity to physical disturbance and/or underwater noise, as a point of reference.

6.3.1 Waterbirds

The physical disturbance of waterbirds is possible where waterbirds flocks are situated in relatively close proximity to vessel traffic. Some waterbird species are more sensitive to flushing due to disturbance than others depending on the flocks and individual birds present, with escape distances increasing with flock size (Fleissbach *et al.*, 2019). The species for the area that overlaps the Export Cable Corridor at Lough Swilly SPA includes the Shelduck, Mallard, Red-brested Merganser, Wigeon and Grey Heron. However, due to the short duration, temporary nature and the limited area coverage of each of the site investigation activities of the within the Foreshore Licence Application Area, it is considered **unlikely** to have a significant impact on the activities of the waterbirds within Lough Swilly SPA as they will be accustomed to vessel traffic and will move away from the slow-moving vessels to find alternative feeding grounds in the surrounding area.

6.4 Pollution Event

All seabirds and in particular diving birds are considered vulnerable to oil pollution given the time they spend resting on the water surface, and diving through it in search of food.

The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78[1]), is an international marine environmental convention which aims to prevent both operational and accidental discharge into the marine from sea going vessels. Ireland ratified the various elements of the MARPOL Convention through the Sea Pollution Act 1991, the Sea Pollution (Amendment) Act 1999 and the Sea Pollution (Miscellaneous Provisions) Act 2006. MARPOL 73/78 was given further legal effect through Statutory Instruments introduced under these Acts. The Acts place a legal obligation upon operators of vessels to implement measures to prevent both operational and accidental discharges from ships of substances, which may damage the marine environment as well as human health.

While the site investigation activities will result in a temporary increase in vessels using the area which increases the risk of accidents and resultant fuel and/or oil spills, an incidence of pollution whether from an accidental occurrence or operational activities is not considered likely considering the legal obligations to comply with MARPOL 73/78 with the increased risk of a pollution event occurring due to these activities considered minimal and not to be over and above existing background risk.

All vessels used during the survey campaign shall, as required by law, be MARPOL Compliant and fully certified by the Maritime Safety Office. This is standard practice for all survey activities irrespective of the survey operator and as it is required by law is built into the survey design.

Therefore, it is considered **unlikely** that there would be any occurrence of a pollution event either accidental or otherwise that could directly or indirectly cause a significant effect to a Natura 2000 site. As such, pollution events are not considered further as a potential impact in this report.

6.5 Physical Disturbance to Annex I Habitats within SACs

There is the possibility of physical disturbance to Annex I Habitats for SACs which overlap with the Foreshore Licence Application area survey activities, particularly from bottom contacting site investigation activities such as benthic grab sampling, CPT and Gravity coring.

The potential pressures associated with sampling activities include physical disturbance to marine benthic communities and sensitive habitats through habitat disturbance with increased suspension of solids and material into the water column and sediment penetration, with some sediment loss.

The SACs and designated Annex I Habitats that were screened in for further assessment due to overlapping with the Foreshore Licence Application Area OECC are:

[1] Note MARPOL stands for maritime pollution while 73/78 stands for 1973 and 1978

- North Inishowen Coast SAC (002012) – Mudflats and Sandflats not covered by seawater at low tide [1140]
- Lough Swilly SAC (002287) – Estuaries [1130]

North Inishowen Coast SAC

North Inishowen Coast SAC is designated for a number of Annex I Habitats. The Application Area overlaps with the 'Mudflats and Sandflats not covered by seawater at low tide [1140]' Qualifying Interest of the SAC. The Conservation Objectives for the 'Mudflats and Sandflats not covered by seawater at low tide [1140]' Qualifying Interest are provided in Table 6-7. Note the North Inishowen Coast SAC Conservation Objectives supporting document for marine habitats (NPWS, 2014) outlines that significant or continuous disturbance of communities should not exceed 15% of the area for each type and be assessed on a case-by-case basis considering the nature and scale of the proposed activities within the designated site.

Table 6-7 Conservation Objectives for the North Inishowen Coast SAC [002012] and the designated Annex I Habitat of Mudflats and Sandflats not covered by seawater at low tide [1140]

To maintain the favourable conservation condition of Mudflats and Sandflats not covered by seawater at low tide [1140] in the North Inishowen Coast SAC, which is defined by the following list:				
Attribute	**Measure**	**Target**	**Notes**	**Total SAC Area**
Habitat Area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.	Habitat area was estimated using OSi data as 988ha	**70.66 km²**
Community Extent	Hectares	Maintain the extent of the *Zostera*-dominated community, subject to natural processes.	Based on an intertidal walkover undertaken in 2013.	
Community structure: *Zostera* density	Shoots/m²	Maintain the extent of the *Zostera*-dominated community, subject to natural processes	Based on an intertidal walkover undertaken in 2013.	
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine to medium sand with *Eurdyce pulchra* complex: muddy sand to coarse sediment with *Pygospio elegans* community complex; Sand with *Angulugs tenuis* and *Scoloplos (Scoloplos) armiger* community complex.	Based on intertidal surveys undertaken in 2007 (ASU, 2007), 2009 and 2010 (RPS, 2013).	

The habitat within this QI is dominated by fine to medium sand with *Eurdyc pulchra*, muddy sand to coarse sediment with *pygospio elegens* community complex and sand with *Anguluas tenuis* and *Scoloplos (Scoloplos) armiger* community complex (Table 6-7). Subtidal grab sampling and intertidal coring is routinely carried out within SACs with these habitat types as these are the standard methods which these marine habitats are monitored under the Habitats Directive.

The proposed landfall of the Malin Head Offshore Export Cable overlaps at two locations within this SAC, at Pollan Bay (Figure 6-1) and at Tullagh Bay (Figure 6-2).

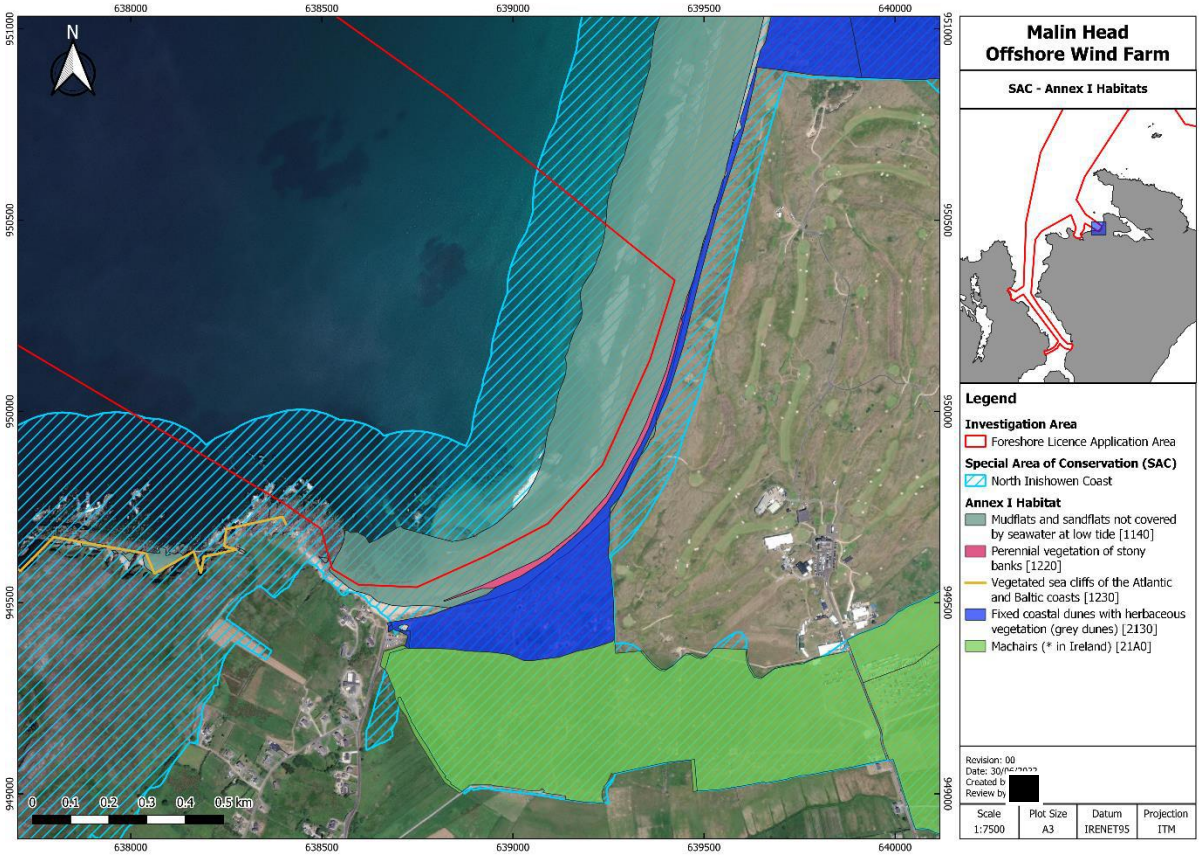

Figure 6-1 Proposed Landfall of Malin Head Offshore Export Cable Corridor – North Inishowen Coast SAC (Pollan Bay)

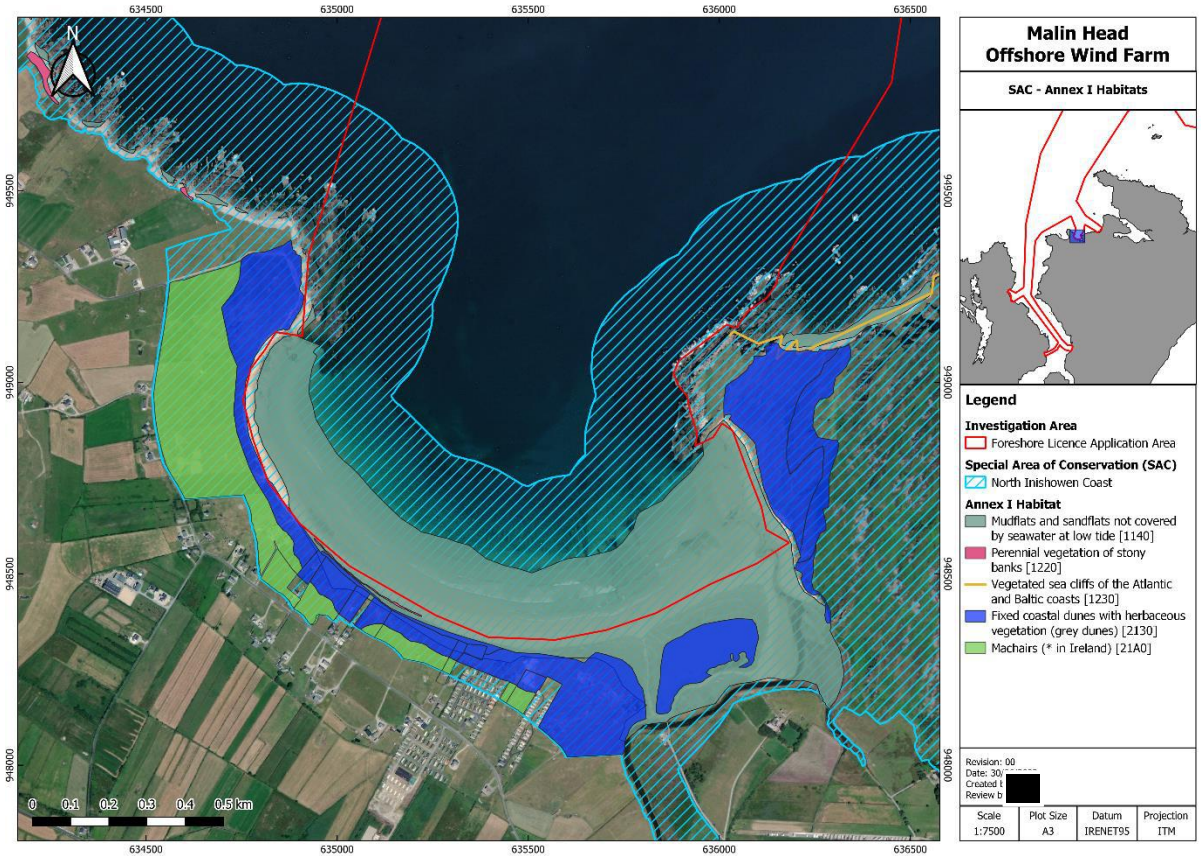

Figure 6-2 Proposed Landfall of Malin Head Offshore Export Cable Corridor – North Inishowen Coast SAC (Tullagh Bay)

An assessment of the areal footprint of the maximum potential impact of the proposed site investigation activities on the North Inishowen Coast SAC and 'Mudflats and Sandflats not covered by seawater at low tide [1140]' Qualifying Interest is presented in Table 6-8 with a summary of the significance of this provided below.

Table 6-8 North Inishowen Coast SAC Area, QI and SI Activity impacts on the SAC and QI

Activity	Total Area North Inishowen SAC	Area of QI Mudflats and Sandflats not covered by seawater all the time [1140] (km^2)	Activity Footprint per SI (km^2)	% SAC impacted	% Qualifying Interest impacted
Hydrographical and Geophysical	70.66 km^2	9.88 km^2	N/A	N/A	N/A
Borehole	70.66 km^2	9.88 km^2	0.00048	0.000679309	0.0048583

Activity	Total Area North Inishowen SAC	Area of QI Mudflats and Sandflats not covered by seawater all the time [1140] (km^2)	Activity Footprint per SI (km^2)	% SAC impacted	% Qualifying Interest impacted
CPT	70.66 km^2	9.88 km^2	0.00084	0.001188791	0.008502024
Gravity Corer	70.66 km^2	9.88 km^2	0.00015	0.000212284	0.001518219
Benthic Grab Sampling	70.66 km^2	9.88 km^2	0.00015	0.000212284	0.001518219
Floating LiDAR	70.66 km^2	9.88 km^2	0.000002	000000.28304	0.202429
ADCP	70.66 km^2	9.88 km^2	0.000005	000000.707614	0.506073
CPODs	70.66 km^2	9.88 km^2	0.000004	000000.566091	0.404858
Wave Buoys	70.66 km^2	9.88 km^2	0.000003	000000.424568	0.303644
Totals			0.001634	0.002312	0.016538

As a worst-case scenario, the total percentage area of the SAC that could be impacted by the proposed sampling activities is 0.0023% and the total area of the QI that could be impacted by the activities is 0.017% (Table 6-8). In both cases the spatial footprint of impact is less than the 15% disturbance threshold of the estimated area for each QI type and SAC outlined above.

The proposed indicative sampling activities will be short in duration and any disturbance caused is likely to be undetectable after a short period of weeks. Therefore, the proposed surveys represent a trivial activity which does not pose a significant, continuous or ongoing impact or disturbance to this SAC or the associated communities.

Based on this, the significant impacts on the conservation objectives to maintain the favourable status of the North Inishowen Coast SAC are considered to be **unlikely** and the SAC can therefore be screened out for any further assessment in relation to its Annex I Habitats.

Lough Swilly SAC

The Lough Swilly SAC is designated for a number of Annex I Habitats. The Application Area overlaps with the 'Estuaries' [1130] Qualifying Interest of the SAC. The Conservation Objectives for the 'Estuaries' [1130] are provided in Table 6-9. Note the Lough Swilly SAC Conservation Objectives Supporting document for marine habitats (NPWS, 2011) outlines that the significant or continuous disturbance of communities should not exceed 15% of the area for each type and be assessed on a case-by-case basis considering the nature and scale of the proposed activities within the designated site.

Table 6-9 Conservation Objectives for Lough Swilly SAC [002287] for the designated Annex I Habitat Estuaries [1130]

Conservation Objectives for Lough Swilly SAC [002287] – Estuaries [1130] **To maintain the favourable conservation condition of the Estuaries in Lough Swilly SAC, which is defined by the following list of attributes and targets:**				
Attribute	**Measure**	**Target**	**Notes**	**Total SAC Area**
Habitat Area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.	Habitat area was estimated at 6118ha using OSI data and the defined Transitional Water Body area under the Water Framework Directive. See marine habitats for further information	92.98 km^2
Community Distribution	Hectares	The following communities should be conserved in a natural condition: **fine sand community complex**; intertidal mixed sediment with polychaetes; subtidal mixed sediment with polychaetes and bivalves' Muddy fine sand with *Thyasira flexuosa*; Mud community complex and *Ostrea edulis* dominated community **For Lough Swilly and overlapping FLA area with SIs, - Fine sand community complex (from NPWS map)** **Subtidal and intertidal zones (grabs and CPT)**	The communities were derived from the 2009 and 2010 intertidal survey and 2009 subtidal survey. See marine habitats supporting document for further information	
		Fine sand community complex – largely confined to the northern extent of the SAC with the southern limit recorded west of Inch Island. Intertidally, it occurs from the upper to lower shore, and subtidally is present from 1.5m to 18m. The substrate is predominately fine sand (34-92%) with varying amounts of fine sand (1-47%). Some coarser sediment		

Conservation Objectives for Lough Swilly SAC [002287] – Estuaries [1130] To maintain the favourable conservation condition of the Estuaries in Lough Swilly SAC, which is defined by the following list of attributes and targets:				
Attribute	**Measure**	**Target**	**Notes**	**Total SAC Area**
		occasionally present. (**NPWS, 2011, supporting marine habitats document**)		

The habitat within this QI is dominated by a fine sand complex, which is found mainly in the northern extent of the Lough Swilly SAC (Table 6-9). Subtidal grab sampling and intertidal coring is routinely carried out within SACs as these are the standard methods in which these marine habitats area monitored, under the Habitats Directive.

The proposed landfall of the Malin Head Offshore Export Cable overlaps at Buncrana beach to the east of Lough Swilly SAC (Figure 6-3). Part of the associated Estuary Habitat QI overlaps at this location. The landfall of the Offshore Export Cable Corridor exit at Kinnegar beach to the west does not overlap or impact on any associated habitats within Lough Swilly SAC at this location (Figure 6-3).

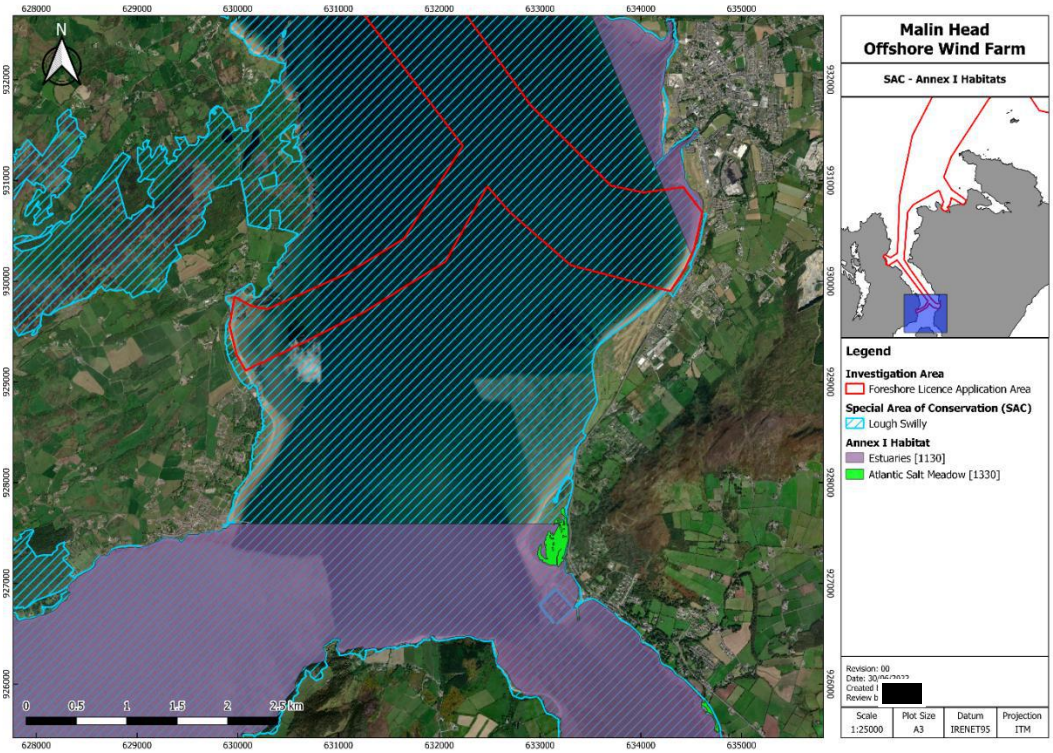

Figure 6-3 Proposed landfall of Malin Head Offshore Export Cable Corridor at Lough Swilly SAC

An assessment of the areal footprint of the maximum potential impact of the proposed site investigation activities on the Lough Swilly SAC and 'Estuaries [1130]' Qualifying Interest is presented in Table 6-10 with a summary of the significance of this provided below.

Table 6-10 Lough Swilly SAC (002287) area, Total QI Area and SI impacts on the SAC and QI

Activity	Total Area Lough Swilly SAC (km²)	Area of QI Estuaries [1130]	Activity Footprint per SI (km²)	% SAC impacted	% Qualifying Interest impacted
Hydrographical and Geophysical	92.98	61.18	N/A	N/A	N/A
Borehole			0.00048	0.00051624	0.0007846
CPT			0.00084	0.00090342	0.001373
Gravity Corer			0.00015	0.000161325	0.0002452
Benthic Grab Sampling			0.00015	0.000161325	0.0002452
Floating LiDAR			0.000002	000000.2151	000000.3269
ADCP			0.000005	000000.53775	000000.8173
CPODs			0.000004	000000.4302	000000.6538
Wave Buoys			0.000003	000000.32265	000000.4904
Totals			0.001634	0.001757	0.002671

As a worst-case scenario, the total percentage area of the SAC that could be impacted by the proposed sampling activities is 0.00176% and the total percentage area that could be impacted by the sampling activities is 0.00267% (Table 6-10). In both cases, the spatial footprint of impact is less than the 15% disturbance threshold of the estimated area for each QI type and SAC outline above.

The proposed indicative sampling activities will be short in duration and any disturbance caused is likely to be undetectable after a short period of weeks. Therefore, the proposed surveys represent a trivial activity which does not pose a significant, continuous or ongoing impact or disturbance to this SAC or the associated communities.

Based on this, the significant impacts on the conservation objectives to maintain the favourable status of the Lough Swilly SAC are also considered to be **unlikely** and therefore this SAC can be screened out from any further assessment in relation to its Annex I Habitats.

6.6 In combination/Other

In combination/Other	There is no spatial or temporal overlap with the proposed works and other projects in the vicinity of European sites considered to be within the zone of influence of the proposed works (See Appendix A for detailed in-combination effects assessment). No likely significant in-combination effects are identified.

6.7 Screening for In-combination Effects

Plans from other projects were examined as part of the SISAA Screening Report. However, there were no other projects or proposed projects close to the Malin Head site where there would be the potential for activities or developments. The subsea cable (Figure 6-4) identified will be accounted for by positioning geotechnical sampling locations a minimum of 100m from as-found position of existing cables. Further mitigation is outlined in section 4.12 and 5.12 of the accompanying NSER documentation. This will ensure the impact on seabed infrastructure is considered with no significant effects predicted. Therefore, for this proposed site location and investigation activities and proposed development location, no likely in-combination effects.

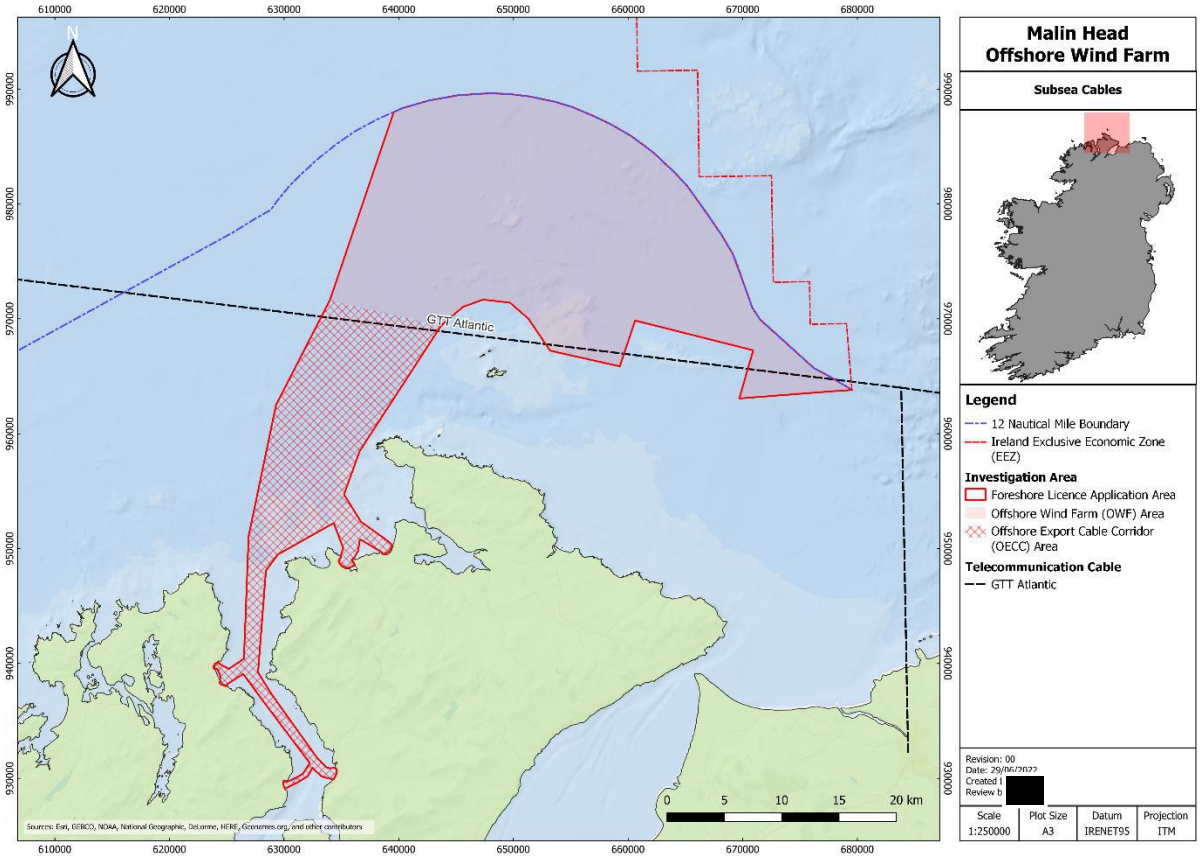

Figure 6-4 Locations of nearby cables in relation to the Foreshore Licence Application Area

Likely changes to the European Site	Significance of Impacts
Changes considered: • Reduction or fragmentation of habitat area • Disturbance to QI species • Habitat or species fragmentation • Reduction or fragmentation in species density	The application site overlaps with two European sites, however given the limited spatial footprint of the proposed activities there is no risk of Annex I habitat loss or fragmentation. The very localised and temporary nature of the works, the distance between the proposed works sites and any European Sites, and the very weak and indirect ecological pathway is such that the proposal will not result in any likely changes to the European sites that comprise part of the Natura 2000 network. There is a risk of disturbance to mobile Annex II species within range of the FLA site investigation area. Those within the zone of influence have been screened in for further consideration to reduce the likelihood of changes to the QI species.

7 Screening Determination Statement

The following SACs have not been screened out of the AA as they have designated mobile species that may enter the Foreshore Licence Application Area:

Table 7-1 Appropriate Assessment Screening Summary by Species for Mobile Marine Mammals

Species	Relevant Information	Summary of Relevant Sites
Harbour Porpoise *(Phocoena phocoena)*	The harbour porpoise is the smallest and most abundant cetacean in Irish waters and possibly the most abundant in the northeast Atlantic. It is common around the entire Irish coast. Sightings are common from June through the autumn/winter period but reduced sightings in spring suggest they move offshore, possibly to calving/breeding grounds. Harbour porpoise is one of two cetacean species with designated SACs considered within this Appropriate Assessment Screening. They utilise in-water acoustics for communication and echolocation and are sensitive to the noise generated by the site investigation activities (Richardson et al., 1995). Porpoises are "high-frequency" cetaceans sensitive to noise in the 200Hz – 180kHz range (Southall et al., 2007). The greatest potential impact on this species from the proposed site investigation activities would be from noise generated by SBP and HESS. This activity has the potential to be within the hearing threshold of harbour porpoise. This species is a mobile species which may be found within the Foreshore Licence Application Area and therefore, there is the possibility of likely significant effect on the conservation objectives for this species in the absence of mitigation measures, therefore this species and the relevant SACs are screened in for Stage 2 Appropriate Assessment.	Skerries and Causeway SAC (UK0030383) Inner Hebrides and the Minches SAC (UK0030397)
Bottlenose Dolphin (Tursiops truncatus)	The Bottlenose dolphin is one of two cetacean species with a designated SAC considered within this Appropriate Assessment Screening. They utilise in-water acoustics for communication and echolocation and are sensitive to the noise generated by the site investigation activities (Richardson et al., 1995). Bottlenose dolphin hear in the mid frequency range (150 – 160,000 Hz)(DAHG, 2014). The greatest impact on this species from the proposed site investigation activities would be the noise generated by sub-bottom profiler (SBP). This has the potential to be within the hearing threshold of bottlenose dolphin.	Duvillaun Islands SAC (IE000495) Slyne Islands Head SAC (IE000328) Slyne Head Peninsula SAC (IE0002074) Lower River Shannon SAC (IE0002165) Mers Celtique – Talus du Golfe de Gascogne (FR530215)
Grey Seal *(Halichoerus grypus)*	The Grey seal is the larger and more abundant of the two seals resident in Ireland. They spend much of the year at sea and may range widely in search of prey. They come ashore in autumn to form breeding colonies on rocky shores, beaches and caves – often on small uninhabited islands. They are found all around the coast wherever	Horn Head and Rinclevan SAC (IE000147) Slieve Tooey/Tormore Island/Loughros Beg Bay SAC (IE000190)

Species	Relevant Information	Summary of Relevant Sites
	habitats are suitable and are most abundant along the exposed south, southwest and west coasts. The two major Irish breeding sites for grey seals are the Inishkea Islands (Mayo) and the Blasket Islands (Kerry). Smaller groups breed at Lambay Island (Dublin), Slyne Head (Galway) and the Saltee Islands (Wexford). The Grey seal is listed as a protected Annex II species for SACs assessed in this Appropriate Assessment Screening. The Grey Seal can hear sound in water at low frequencies relative to cetaceans (75Hz – 75kHz) (Southall et al., 2007) and would be sensitive to the noise from the survey equipment and vessels. As it is a mobile species with the potential to be present Within the Foreshore Licence Application Area and therefore, there is the possibility of likely significant effect on the conservation objectives for this species in the absence of mitigation measures. This species is and the relevant SACs are screened in for Stage 2 Appropriate Assessment.	The Maidens (UK0030384) South-East Islay Skerries (UK0030067)
Common Seal *(Phoca vitulina)*	The common, or harbour seal, is the smaller of the two seals resident in Ireland. Despite its name, it is less common than lamprey is a primitive, jawless fish resembling an eel. It occurs in estuaries and easily accessible rivers and is a migratory species, spawning in freshwater but completing its life cycle in the sea (anadromous). The species migrates from the sea to freshwater in April/May, where they spawn in late May and then return to sea, the grey seal. The common seal is the characteristic seal of sandflats and estuaries but are also found on rocky shores. Seals may range widely in search of prey, but individuals often return to favoured haul-out sites to rest or to give birth. The Common seal is listed as a protected Annex II species for SACs assessed in this Appropriate Assessment Screening. The Common Seal can hear sound in water at low frequencies relative to cetaceans (75Hz – 75kHz) (Southall et al., 2007) and would be sensitive to the noise from the survey equipment and vessels. As it is a mobile species with the potential to be present Within the Foreshore Licence Application Area and therefore, there is the possibility of likely significant effect on the conservation objectives for this species in the absence of mitigation measures. This species is and the relevant SACs are screened in for Stage 2 Appropriate Assessment.	Rutland Island and Sound SAC (IE0002283)
Otter *(Lutra lutra)*	The otter is a semi-aquatic mammal, which occurs in a wide variety of aquatic habitats such as rivers, streams,	North Inishowen Coast SAC (IE0002012)

Species	Relevant Information	Summary of Relevant Sites
	lakes, estuaries and on the coast. Populations in coastal areas use shallow, inshore marine areas for feeding but they also require access to fresh water for bathing and terrestrial areas for resting and breeding. Coastal otter habitat ranges from sheltered wooded inlets to more open, low-lying coasts. The otter is found throughout Ireland, which has the densest otter population in western Europe. Over most of the continent the species is scarce to extinct, making the Irish population of otters particularly important. This is a mobile species that in coastal habitats tends to remain close to shore, with a range approximately 12km along the coast and 80m seaward from the coast. Therefore, there is the possibility of likely significant effect on the conservation objectives for this species in the absence of mitigation measures and this species and the relevant SACs are screened in for Stage 2 Appropriate Assessment.	Mulroy Bay SAC (IE0002159) Lough Swilly SAC (IE0002287) Leannan River SAC (IE0002176)

Table 7-2 SAC with their relevant Mobile Annex II species and distance to the Foreshore Licence Application Area

SAC Name (Code)	Mobile Annex II Species	Distance to Site (km)
Lough Swilly SAC (IE0002287)	Lutra Lutra (Otter) [1355]	0.00
North Inishowen Coast SAC (IE0002012)	Lutra Lutra (Otter) [1355]	0.00
Rutland Island and Sound SAC (IE0002283)	Phoca vitulina (Harbour Seal) [1365]	77.77
Horn Head and Rinclevan SAC (IE000147)	Halichoreus grypus (Grey Seal) [1364]	25.17
Mulroy Bay SAC (IE0002159)	Lutra lutra (Otter) [1355]	12.43
Leannan River SAC (IE0002176)	Lutra lutra (Otter) [1355]	11.95
Slieve Tooey/Tormore Island/Loughros Beg Bay SAC (IE000190)	Halichoreus grypus (Grey Seal) [1364]	104.47
The Maidens (UK0030384)	Halichoreus grypus (Grey Seal) [1364]	80.66
South-East Islay Skerries (UK0030067)	Halichoreus grypus (Grey Seal) [1364]	46.84
Skerries and Causeway SAC (UK0030383)	Phocoena phocoena (Harbour Porpoise)	17.26
Inner Hebrides and the Minches SAC (UK0030397)	Phocoena phocoena (Harbour Porpoise)	70.87
Lower River Shannon SAC (IE0002165)	Tursiops truncatus (Common Bottlenose Dolphin) [1349]	437.85

SAC Name (Code)	Mobile Annex II Species	Distance to Site (km)
Mers Celtique – Talus du Golfe de Gascogne SAC (FR5302015)	Tursiops truncatus (Common Bottlenose Dolphin) [1349]	940.54
Duvillaun Islands SAC (IE000495)	Tursiops truncatus (Common Bottlenose Dolphin) [1349]	290.78
Slyne Islands Head SAC (IE000328)	Tursiops truncatus (Common Bottlenose Dolphin) [1349]	348.64
Slyne Head Peninsula SAC (IE0002074)	Tursiops truncatus (Common Bottlenose Dolphin) [1349]	340.83

8 Screening Statement Outcome

Significant effects on designated marine mammal (including otter) species features of **16** Natura 2000 sites due to low frequency (up to 100 kHz) high SPL (> 160 dB re 1 µPa rms) underwater noise emitted by SBP and drilling are likely and **will be** considered further in a **Natura Impact Statement**.

No other impacts are predicted on the habitats or species which constitute a QI or SCI for any of the SACs or SPAs considered as a result of the proposed site investigation activities. Therefore, no other likely significant effects are foreseen on the conservation objectives of the SPAs and SACs examined. There will be no other direct or indirect impacts on the qualifying interests or conservation objectives of any additional Natura 2000 sites.

There is spatial overlap between the project and a GTT telecommunications cable, however no significant in-combination effects have been identified as geotechnical sampling locations will be positioned a minimum of 100 m from as-found position of existing cables.

There is no other spatial or temporal overlap with the proposed works and other projects in the vicinity of European sites considered to be within the zone of influence of the proposed works. Therefore, no likely significant in-combination effects have been identified.

Therefore, it is concluded that a Stage 2 Appropriate Assessment is not required for other Natura 2000 sites or their QIs or SCIs. These **will not be** considered further in a **Natura Impact Statement**.

Likely significant effects, either alone or in combination with other plans or projects, have been screened out for all SACs considered in this report in respect of their Annex I Habitats. Likely significant effects either alone or in-combination with other plans and projects have also been screened out for any of the SPAs and their special conservation interests (bird species) considered in this report.

However, a number of SACs considered in this report that are designated for the presence of Annex II species could not be screened out at this stage from likely significant effects.

Likely significant effects due to underwater noise as a result of geophysical surveys could not be screened out during the screening exercise in the absence of mitigation measures for a number of Annex II Species. An examination of other plans and projects and their possible interaction with the activities proposed under the Malin Head Wind Farm Foreshore Licence Application was also undertaken (Section 6.5) and it reached a conclusion that possible in-combination effects due to geophysical surveys can be ruled out.

Therefore, the following species and their corresponding SACs have been screened in for further consideration and must proceed to a Stage 2 Appropriate Assessment (Natura Impact Statement):

- Harbour porpoise
- Bottlenose dolphin
- Grey seal
- Common/harbour seal
- Otter

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Appendix I: Bird Zone of Influence rationale

Data on foraging movements of a number of seabird species has increased over the years mainly due to technological data capture systems such as satellite and other tracking technologies (e.g. Langston et al. 2013, Wakefield et al. 2015, 2017, Thaxter et al. 2014, 2018, Cleasby et al. 2015, 2020, Bogdanova et al. 2017, Carter et al. 2016, EPA et al. 2016, Votier et al. 2017). Available information on foraging areas used by species from particular colonies is still limited. Woodward et al. (2019) have reported on representative breeding season foraging ranges for a range of species.

Table IV-1 provides indicative foraging ranges (mean maximum) travelled for a range of seabird species from a breeding colony to a foraging area, which have been used to identify relevant sites on the basis that related Qualifying Interests could interact with the Foreshore Licence Application Area during site investigation activities. The mean maximum foraging range values are used to address potential interaction with relevant SPAs; however bird density will not be continuous throughout this range. Other ways of representing foraging ranges (e.g. the mean, or percentage foraging area derived from kernel analyses) may therefore provide more useful information, where available.

Whilst applying mean maximum foraging radius would encompass the majority of a population's home-range area, the overall size of the predicted foraging areas around the colony would potentially make it too large to be a useful management tool, without further refinement using habitat and bathymetric data (Soanes et al. 2016). Similarly, the assumption that seabirds are uniformly distributed out to some threshold distance from their colonies, such as their putative maximum foraging range, is unrealistic. Seabird density declines with distance from the colony with density-dependent competition, coastal morphology and habitat preferences (Wakefield et al. 2017), for example oceanographic features at which seabirds preferentially forage including shelf-edge fronts, upwelling and tidal-mixing fronts, offshore banks and internal waves, regions of stratification, and topographically complex coastal areas subject to strong tidal flow (Cox et al. 2018), resulting in highly non-uniform distributions. While Critchley et al. (2018) used a distance-weighted foraging radius approach to project distributions at sea for a wide range of seabird species during the breeding season, the authors recognised the limitations of not considering environmental variables that contribute to such non-uniform distributions noted above.

The selection of all sites outlined in Section 5 within the mean maximum foraging range of the Foreshore Licence Application Area is a useful but simplistic approach to identifying relevant sites. The approach taken here has been to review the initial selection of sites on this basis and use expert judgement to exclude those for which an interaction would be unrealistic. For example, sites where Fulmar is identified as a Qualifying Interest on the far north and west of Ireland as Fulmar's are highly pelagic seabirds and are highly unlikely to move large distances over land which could bring them to within the Foreshore Licence Application Area. The potential mean maximum foraging range for this species has therefore been applied across the marine area, including where birds could move around headlands.

To aid in the selection process in identifying the mean maximum foraging ranges for the relevant SPAs within the zone of influence of the Foreshore Licence Application Area and the investigation activities measurements were taken across landward distance, seaward distance and some measured across

headlands where there were large areas of land that could be covered. This process was used to ensure all distance measurements and foraging ranges were considered in the assessment and screening process for the seabird ranges that were identified from Woodward et al., 2019).

Table 0-1 Indicative breeding season foraging ranges (Woodward et al, 2019)

Indicative breeding season foraging ranges		
Species	Mean maximum[1] (km ± SD)	Confidence Level[2]
Eider	21.5	Poor
Red-throated diver	9	Low
Fulmar	542.3 ± 657.9	Good
Manx shearwater	1,346.8 ±,1,018.7	Moderate
European storm petrel	336	Poor
Leach's storm petrel	n/a	Moderate
Gannet	315.2 ± 194.2	Highest
Cormorant	25.6 ± 8.3	Moderate
Shag	13.2 ± 10.5	Highest
Arctic skua	n/a	Poor
Great skua	443.3 ± 487.9	Uncertain
Black-headed gull	18.5	Uncertain
Common gull	50	Poor
Mediterranean gull	20	Uncertain
Herring gull	58.8 ± 26.8	Good
Lesser black-backed gull	127 ± 109	Highest
Kittiwake	156.1 ± 144.5	Good
Sandwich tern	34.3 ± 23.2	Moderate
Roseate tern	12.6 ± 10.6	Moderate
Common tern	18.0 ± 8.9	Good
Arctic tern	25.7 ± 14.8	Good
Little tern	5	Moderate
Guillemot	73.2 ± 80.5	Highest
Razorbill	88.7 ± 75.9	Good
Puffin	137.1 ± 128.3	Good

[1]The maximum range reported in each study averaged across studies.

[2] Confidence levels were assigned as follows: highest (based on >5 direct studies, graphs and standard deviation suggest relatively low variability between sites and hence higher confidence); good (based on >5 direct studies; graphs and standard deviation show wider variability between sites, hence lower confidence); moderate (between 2-5 direct studies); low (indirect measures or only one direct tracking study); uncertain (survey-based estimates); poor (few survey estimates or speculative data available).