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Appropriate Assessment Screening Report: ECRIPP Pre-Works Surveys

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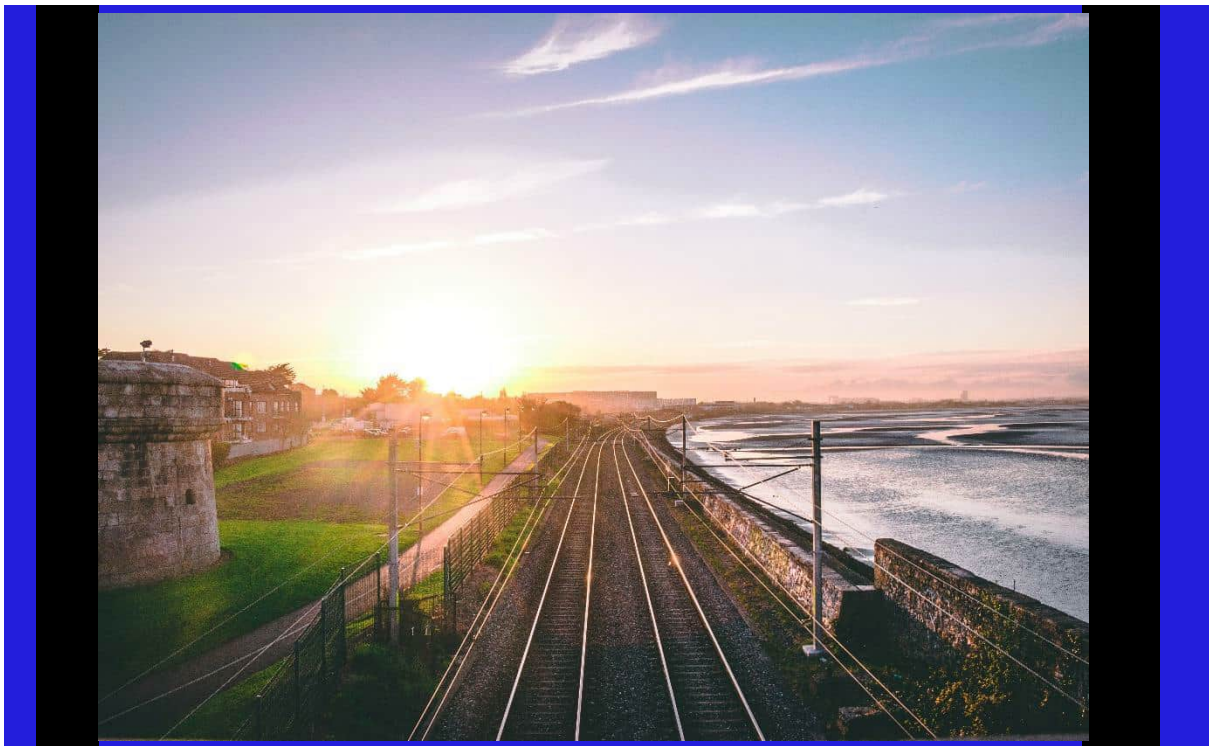
Iarnród Éireann
Iarnrod Eireann

East Coast Railway Infrastructure Protection Project



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Executive Summary

Iarnród Eireann's East Coast Railway Infrastructure Protection Projects (ECRIPP) is required to defend long sections of the essential Dublin to Rosslare coastal rail line from coastal erosion and flooding for the next 100 years. The project will be the largest coastal protection scheme in north-western Europe. The South-East railway carries Dublin Area Rapid Transport (DART) and mainline services and runs for 167km to Rosslare. Just under half of the route length (77km) runs adjacent to coastal or estuarine environment making it vulnerable to the impact of climate change. ECRIPP is planned to defend the railway infrastructure and boost coastal resilience in the face of a changing climate with its associated rising sea levels.

A network of protected areas for certain habitats and species of conservation importance has been established by European Union (EU) member states under the Habitats and Birds Directives (Council Directive 92/43/EEC and Directive 2009/147/EC); these areas are known as European sites.

The EU Habitats Directive (92/43/EEC) has been transposed into Irish law by the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011). Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites. Appropriate Assessment of the implications must be made by the decision-making authority (or Competent Authority) if the project is likely to have a significant effect on a European site alone or in-combination with other plans or projects. Appropriate Assessment is a two-stage process of determining impacts to European sites which are Stage 1 Screening and Stage 2 Appropriate Assessment.

This Appropriate Assessment (AA) Screening Report has been undertaken in relation to the pre-works surveys required in support of ECRIPP. These surveys include ground investigation (GI), geophysical surveys, archaeological surveys, bathymetric surveys, benthic ecology surveys and breeding bird and bat survey works (hereafter referred to as the 'Survey Works'). The Survey Works are required to inform the geotechnical and ecological baseline conditions and site conditions in general.

This document summarises the findings of the studies undertaken to inform Stage 1 Appropriate Assessment Screening of the AA process.

The conclusion of the Screening for AA is that, in the absence of mitigation measures, the following LSE to undermine the conservation objectives of the following European sites cannot be excluded:

- South Dublin Bay SAC
    - Mudflats and sandflats not covered by seawater at low tide [1140], annual vegetation of drift lines [1210], *Salicornia* and other annuals colonising mud and sand [1310], embryonic shifting dunes [2110]
        - Habitat loss – temporary from GI and intertidal cores within Licence Area A
- Rockabill to Dalkey Island SAC
    - Harbour Porpoise (*Phocoena phocoena*) [1351]
        - Disturbance of species during bathymetric surveys
- Lambay Island SAC
    - Harbour Porpoise (*Phocoena phocoena*) [1351], Grey Seal (*Halichoerus grypus*) [1364], Harbour Seal (*Phoca vitulina*) [1365
        - Disturbance of species during bathymetric surveys and ecology boat surveys

- Codling Fault Zone SAC
    - Harbour Porpoise (*Phocoena phocoena*) [1351]
        - Disturbance of species during bathymetric surveys
- South Dublin Bay and River Tolka Estuary SPA
    - Light-bellied Brent goose (*Branta bernicla hrota*) [A046], Oystercatcher (*Haematopus ostralegus*) [A130], Ringed plover (*Charadrius hiaticula*) [A137], Grey plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149], Bar-tailed godwit *(Limosa lapponica*) [A157], Redshank *(Tringa totanus*) [A162], Black-headed gull *(Chroicocephalus ridibundus*) [A179], Roseate tern (*Sterna dougallii*) [A192], Common tern (*Sterna hirundo*) [A193], Arctic tern (*Sterna paradisaea*) [A194]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- The Murrough SPA
    - Red-throated diver (*Gavia stellata*) [A001], Greylag goose (*Anser anser*) [A043], Light-bellied brent goose (*Branta bernicla hrota*) [A046], Wigeon (Mareca *penelope*) [A050], Teal (*Anas crecca*) [A052], Black-headed gull (*Chroicocephalus ridibundus*) [A179], Herring gull (*Larus argentatus*) [A184], Little tern (*Sterna albifrons*) [A195]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- Dalkey Islands SPA
    - Roseate tern (*Sterna dougallii*) [A192], Common tern (*Sterna hirundo*) [A193], Arctic tern (*Sterna paradisaea*) [A194]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- Wicklow Head SPA
    - Kittiwake (*Rissa tridactyla*) [A188]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- North Bull Island SPA
    - Light-bellied Brent goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Teal (*Anas crecca*) [A052], Pintail (*Anas acuta*) [A054], Shoveler (*Spatula clypeata*) [A056], Oystercatcher (*Haematopus ostralegus*) [A130], Golden Plover (*Pluvialis apricaria*) [A140], Grey plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Bar-tailed godwit *(Limosa lapponica*) [A157], Curlew (Numenius arquata) [A160], Redshank *(Tringa totanus*) [A162], Turnstone (*Arenaria interpres*) [A169], Black-headed gull *(Chroicocephalus ridibundus*) [A179]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- North-West Irish Sea SPA
    - Red-throated Diver (*Gavia stellata*) [A001], Great Northern Diver (*Gavia immer*) [A003], Fulmar (*Fulmarus glacialis*) [A009], Manx Shearwater (*Puffinus puffinus*) [A013], Cormorant (*Phalacrocorax carbo*) [A017], Shag (*Gulosus aristotelis*) [A018], Common Scoter (*Melanitta nigra*) [A065], Little Gull (*Larus minutus*) [A177], Black-headed Gull (*Chroicocephalus*

ridibundus) [A179], Common Gull (*Larus canus*) [A182], Lesser Black-backed Gull (*Larus fuscus*) [A183], Herring Gull (*Larus argentatus*) [A184], Great Black-backed Gull (*Larus marinus*) [A187], Kittiwake (*Rissa tridactyla*) [A188], Roseate Tern (*Sterna dougallii*) [A192], Common Tern (*Sterna hirundo*) [A193], Arctic Tern (*Sterna paradisaea*) [A194], Little Tern (*Sterna albifrons*) [A195], Guillemot (*Uria aalge*) [A199], Razorbill (*Alca torda*) [A200], Puffin (*Fratercula arctica*) [A204]

        - Disturbance of species during all Survey Works within intertidal and subtidal zones

- Wicklow Mountains SPA
    - Merlin (*Falco columbarius*) [A098], Peregrine (*Falco peregrinus*) [A103]
        - Disturbance of species during all Survey Works within foreshore and intertidal zones

Contents

Appendices

Tables

Acronyms and abbreviations

Term, Abbreviation or Acronym	Description
AA	Appropriate Assessment
ACIEEM	Associate Member of the Chartered Institute of Ecology and Environmental Management
CCA	Coastal Cell Area
CEMP	Construction Environmental Management Plans
CIEEM	Chartered Institute of Ecology and Environmental Management
CO	Conservation Objectives
DoEHLG	Department of Environment, Heritage and Local Government
ECJ	European Court of Justice
EC	European Commission
EPA	Environmental Protection Agency
GI	Geotechnical Investigation
IROPI	Imperative Reasons of Overriding Public Interest
LSE	Likely Significant Effects
MCIEEM	Member of the Chartered Institute of Ecology and Environmental Management
MUL	Maritime Usage Licence
NBDC	National Biodiversity Data Centre
NIS	Natura Impact Statement
NPAD	National Planning Application Database
NPWS	National Parks and Wildlife Service
NRA	National Roads Authority
OPR	Office of the Public Regulator
QI	Qualifying Interest
SAC	Special Areas of Conservation
SCI	Special Conservation Interest
SISAA	Supporting Information for Screening Appropriate Assessment
SPA	Special Protection Areas
WFD	Water Framework Directive
ZoI	Zone of Influence

1. Introduction

1.1 Background

Iarnród Éireann (IÉ) are applying for a Maritime Usage Licence (MUL) to undertake a range of surveys and investigations within intertidal and subtidal areas on Ireland's East Coast. The purpose of the Survey Works is to inform the selection and design of preferred coastal management options (such as breakwaters, beach nourishment, onshore revetment strengthening etc) for the future East Coast Railway Infrastructure Protection Projects (ECRIPP), which will be subject to separate consenting.

The ECRIPP is required to defend long sections of the essential Dublin to Rosslare east coastal railway line from coastal erosion and flooding for the next 100 years. The project will be the largest coastal protection scheme in north-western Europe. The South-East railway carries Dublin Area Rapid Transport (DART) and mainline services and runs for 168km to Rosslare. Just under half of the route length (77km) runs adjacent to coastal or estuarine environment making it vulnerable to the impact of climate change. ECRIPP is planned to defend the railway infrastructure and boost coastal resilience in the face of a changing climate with its associated rising sea levels.

The frequency of track wash out, where the sea has eroded the land supporting the railway, along with wave overtopping onto the tracks, has increased in the last 20 years. These incidents have had significant impacts on performance and safety as well as major losses of land and freshwater/terrestrial habitats.

This Supporting Information for Screening Appropriate Assessment (SISAA) report has been undertaken in relation to the pre-works surveys required in support of ECRIPP, to support the MUL required for the Survey Works. The Survey Works include geotechnical investigations, geophysical site investigation surveys, bathymetric surveys and environmental surveys (comprising archaeological surveys, benthic ecology surveys, boat-based breeding bird and bat survey works).

This document summarises the findings of the studies undertaken to inform Stage 1 Appropriate Assessment Screening of the AA process. Full details and methodologies of the Survey Works are provided in Section 2 'Description of the Survey Works'.

1.1.1 Licence Areas

The future ECRIPP scheme is located along the east coast railway line in Ireland. As part of ECRIPP, five Coastal Cell Areas (CCA's) have been identified as vulnerable to coastal erosion and climate change effects. As part of this assessment of the Survey Works and throughout the MARA licence documentation these will be referenced as "Licence Areas". These Licence Areas as they relate to the CCA's can be seen in Table 1.1, and are shown in Appendix A, Figure 1 and 3.

Table 1.1: Licence Areas

CCA	Description	Licence Area
1	Merrion Gates to Dun Laoghaire	A
2/3	Dalkey Tunnel to Killiney South	B
5	Bray Head to Greystones North Beach	C
6.1	Greystones South to Newcastle	D
6.2	Newcastle to Wicklow	D

For the purpose of this assessment, CCA6.1 and CCA6.2 are combined into one – Licence Area D. It should be noted that no protection measures are proposed as part of ECRIPP in CCA4 and therefore no Survey Works are to be carried out in this CCA and as such this CCA is not included in the assessment.

Licence Map Areas have been developed and accompany this licence application in Appendix A.

1.2 2Purpose of this Report

1.2.1 Informing Appropriate Assessment Screening

In the context of Article 6(3) of the Habitats Directive and Section 177U(1) of Planning and Development Act 2000 (as amended), Iarnród Éireann as the Competent Authority for this Proposed Development, must carry out Screening for Appropriate Assessment (AA) of the Proposed Development to assess whether, on the basis of objective scientific information, the Proposed Development, individually or in-combination with other plans or projects, is likely to have a significant effect on the conservation objectives of any European sites. This report presents the information required for the Competent Authority to undertake Screening for AA for the Proposed Development.

1.2.2 Legislative Context to Appropriate Assessment

Habitats and species of European importance are provided legal protection under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (hereafter referred to as the Habitats Directive) and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (hereafter referred to as the Birds Directive). The Habitats Directive protects habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as the Natura 2000 network (hereafter referred to as European sites, as the term Natura 2000 network was replaced by 'European site' under S.I. No. 473 of 2011 – European Union (Environmental Impact Assessment and Habitats) Regulations 2011). European sites comprise Special Areas of Conservation (SACs) and Special Protection Areas. Candidate SACs (cSACs) and potential SPAs (pSPAs) are afforded the same protection as SACs and SPAs and are therefore assessed in the same manner within this AA Screening Report.

The Habitats Directive has been transposed into Irish law by Number 30 of 2000 - Planning and Development Act, 2000 (as amended) and S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011 (hereafter referred to as the Birds and Habitats Regulations). Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites.

Article 6(3) establishes the requirement for AA:

> *'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in-combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the site's conservation objectives. 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 after 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 [Natura 2000] 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 a social or economic nature, Member States 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.'*

The Habitats Directive was transposed into Irish law from a planning perspective through Part XAB of the Planning and Development Act 2000 (as amended). The circumstances under which an AA is required, the stages of that assessment which must be undertaken and the responsibilities of the Competent Authority in considering whether or not to approve consent for proposed plans or projects are outlined in the Act.

Section 177U(1) states that:

> *"A screening for appropriate assessment of a draft Land use plan or application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site."*

Where likely significant effects upon a European site are predicted, or cannot be ruled out, it is the responsibility of the Competent Authority to undertake an AA under Article 6(3) of the Habitats Directive, informed through an Natura Impact Statement (NIS), to determine whether or not the proposed plan in combination with any other plan or project would adversely affect the integrity of a European site in light of its Conservation Objectives.

Section 177T(1) states that:

> *"(a) A Natura impact report means a statement for the purposes of Article 6 of the Habitats Directive, of the implications of a Land use plan, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites.*
>
> *(b) A Natura impact statement means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites."*

Section 177T(2) states that:

> *"Without prejudice to the generality of subsection (1), a Natura impact report or a Natura impact statement, as the case may be, shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites."*

1.2.3 Guiding Principles and Case Law

Appropriate Assessment Screening for Development Management (OPR Practice Note PN01) is the most recent Irish guidance in relation to AA and was published in 2021 by the OPR (OPR 2021). This document provides information and guidance on the Irish planning application.

A number of cases have been brought to both the National and European courts in relation to the AA process. Therefore, relevant case law, European Court of Justice (ECJ) rulings and European Commission publications have also been considered in the preparation of this AA Screening.

1.2.4 Stages of Appropriate Assessment

The purpose of AA Screening is to identify whether, activities associated with plans or projects, either acting individually or in-combination with other plans or projects result in likely significant effects (LSEs) on any European sites. All potential effects between activities associated with the plans or projects and the ecological components of European sites must be considered. This includes potential effects on mobile species, notably birds, mammals, invertebrates and migratory fish using functionally linked land outside the designated boundary of a European site.

If the prospect of LSEs occurring cannot be excluded on the basis of objective information or is uncertain, the plan or project is taken forward to the next stage of the process i.e. AA. At Screening, the burden of evidence is to show, on the basis of objective information, and beyond reasonable scientific doubt, that the proposed plan or project will have no LSEs on a European site. An overview of the Appropriate Assessment process is outlined below:

- Stage 1 Screening: Screening determines whether an AA is required by determining if the project or plan is likely to have a significant effect on any European site(s) either individually or in-combination with other plans or projects, in light of the site's conservation objectives.
- Stage 2 Appropriate Assessment: If the screening has determined that AA is required, the competent authority then considers the effect of the project or plan on the integrity of the European site(s). Specifically it must be determined if the project or plan will adversely affect the integrity of a European site(s) either individually or in-combination with other plans and projects in view of the conservation objectives of the site(s). Where potential adverse effects on site integrity (AESI) are identified, mitigation measures are proposed to avoid adverse effects, as appropriate. For projects, the AA process is documented within a Natura Impact Statement (NIS).

Following AA, including mitigation proposals, if AESI remain, or uncertainty remains and the project/plan is to be progressed, an Assessment of Alternative Solutions is required under the provisions of Article 6(4) of the Habitats Directive. This process examines the alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site. If no alternatives exist, or all alternatives would result in adverse effects on the integrity of a European site, and the project/plan is progressed, the process moves to the next stage.

Where an Assessment of Alternative Solutions fails to identify any suitable alternatives, for a project or plan to be progressed it must demonstrate that there are Imperative Reasons for Overriding Public Interest (IROPI).

If, following an assessment of IROPI, it is deemed that the project or plan can proceed, compensatory measures must be secured to maintain the coherence of the European site network despite adverse effects to the integrity of the site(s).

1.2.5 Authors Qualifications and Expertise

This report has been prepared by [redacted] and [redacted] and reviewed by [redacted].

[redacted] is an Ecologist in Jacobs with 2.5 years' experience in ecological consultancy and 0.5 years' experience in conservation. She holds a first-class honours degree in Zoology from University College Dublin. [redacted] is a qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and has authored AA Screening Reports, NISs, Construction Environmental Management Plans (CEMP), and Preliminary Ecological Constraints Reports (PECR). [redacted] has carried out multiple field surveys for protected species and habitats on a variety of large and small infrastructure projects.

[redacted] is a Senior Ecologist and holds a BSc (Hons) in Conservation Biology and Ecology from Exeter University. He has four years of pure consultancy associated project experience including Preliminary Ecological Appraisals (PEA), Environmental Impact Assessments (EIA), AA Screening Reports and Natura Impact Statements (NIS). [redacted] has a strong background in ornithology and is well practiced in a range of survey techniques.

[redacted] is a Chartered Environmentalist and Senior Associate Director of Ecology and has over 20 years of experience of supporting infrastructure projects in ecological assessment, specialising in Habitats Regulations Assessment. Before this, he spent 18 years developing land management, team / project management and stakeholder engagement skills in the nature conservation field. [redacted] experience has been in the voluntary, public and private sectors and has included infrastructure projects including new nuclear build, trunk roads, pipelines, electricity transmission and waste management facilities, as well as development of decision-making processes and strategic assessments in the government sector.

2. Description of the Survey Works

Full methodologies for all Survey Works and their locations are described below and summarised in Table 2.1.

Table 2.1: Summary of works to be undertaken in each Licence Area

Licence Area	Works to be undertaken	
	Foreshore and intertidal zone (land-based)	Intertidal and subtidal zone (boat-based)
A	Geotechnical investigations, geophysical investigations, bathymetric surveys, benthic ecology surveys (intertidal cores and transects), licenced metal detection surveys	Bathymetric surveys
B	Licenced metal detection surveys, bathymetric surveys, benthic ecology surveys (intertidal transects and subtidal day grabs)	Bathymetric surveys
C	Licenced metal detection surveys, bathymetric surveys, benthic ecology surveys (intertidal transects and subtidal day grabs)	Bathymetric surveys, breeding bird surveys, drop down camera surveys, bat surveys, subtidal day grabs
D	Licenced metal detection surveys, bathymetric surveys, benthic ecology surveys (intertidal transects)	Bathymetric surveys, subtidal day grabs

2.1 Geotechnical and Geophysical Investigations

GI works will be carried out along the upper shore of Licence Area A (Appendix A, Figure 2), as follows:

- 22 borehole surveys (4 no. windows samples and 18 no. windowless samples);
- 19 Trial pits (one hand dug pit and 18 machine excavated pits ("slit trenches"));
- One Dynamic Cone Penetrometer (DCP) test;
- One sediment sample for particle size analysis of beach material; and
- Geophysical surveys comprising two techniques Seismic Refraction Tomography (SRT) and Multichannel Analysis of Surface Waves (MASW).

Access to GI locations will be via public access routes to South Dublin Bay and along the beach thereafter. Specifically, for Licence Area A this will be via Merrion Gates (northern section) and Dun Laoghaire West Pier. The proposed access route for the drilling rig and excavator onto the beach will be via the R131 adjacent to Merrion Strand to the north-west of Blackrock Station (see plans in Annex A). The proposed route towards Booterstown and Blackrock Stations will be along the northern section of the spit formation, along the flat sandy area of the beach. The intertidal area is considered suitable and should be capable of supporting a 3T Excavator or Terrier Rig. There will be one channel crossing necessary, but it is narrow and shallow in nature. Any rigs travelling along the beach will stay as close to the coastal embankment wall as possible (where the ground is less saturated and therefore will provide more support for travelling rigs).

Works areas will be reinstated to their original state as directed by an on-site Ecological Clerk of Works (ECoW), which will typically involve reinstatement of backfill material.

A temporary mobile portacabin will be provided for the duration of the works in a self-contained facility, which will be parked on roads in public areas outside of any SAC / SPA boundary.

2.1.1 Window Sample Boreholes

2.1.1.1 Windowless Sampler

The percussive window or windowless sampling method involves driving cylindrical steel tubes into the ground using a hydraulic hammer (Figure 2.1). The resulting samples will have a maximum surface diameter of 100mm and a maximum depth of 8m. The drilling rig will be mounted onto rubber tracks to minimise disturbance and ensure the method is suitable for use on environmentally sensitive sites. Each windowless sample will take between 1 to 4 hours to complete depending on ground conditions. The backfilling of locations on the beach will be made using the extracted soil horizons. Any additional backfill material required will comprise bentonite pellets.

Figure 2.1. Windowless sampler example

2.1.1.2 Window Sampler

A further four window samples will be drilled on the slope of the existing revetment. This method is similar to the windowless samples described above, with one initial additional step due to the need to core through the hard strata before commencing with the windowless sample technique. The initial upper layers in the revetment will be cored using the coring application on the drill rig. This core-drilling is designed to produce cores up to 150mm diameter from asphalt, concrete and similar materials. The backfilling of locations on the revetment face will be used via a combination of bentonite pellets, and bentonite grout cement. The cored coping stone will then be placed back into the hole and grouted in place.

2.1.2 Trial Pits

2.1.2.1 Hand-dug Trial Pit

A single foundation inspection pit will be excavated using hand digging tools up to 1m long by 1m in width and excavated to a maximum depth of 2m below ground level. The pit will take approximately 30 minutes to complete, and the contractors will backfill the pit on the same day. This pit will be dug by hand due to access restrictions for an excavator.

2.1.2.2 Slit Trench Works

A slit trench is a long narrow trench commonly used to determine the position of existing services (Figure 2.2). Eighteen trenches will be excavated up to 4m long by up to 1m in width and to a maximum depth of 2m below

ground level using a tracked excavator or a wheeler back-hoe excavator. This method typically takes 1-2 hours to complete depending on ground conditions. These trial pits will be backfilled with the beach sediment or soil arisings as appropriate by the contractors on the same day. Generally, the material will be backfilled in the order it was excavated so as to reinstate the different horizons/ layers to their prior locations. In order to achieve this, during excavation any soil risings/spoil will be placed adjacent to the pit on a tarpaulin or similar material.

Figure 2.2. Slit trench example

2.1.3 Dynamic Cone Penetrometer test

A single Dynamic Cone Penetrometer (DCP) will be undertaken. The DCP test involves driving a steel cone vertically into the ground using a sliding hammer and will take approximately 5-10 minutes to carry out. The number of blows required for each 100mm of penetration will be measured and used to determine the strength and thickness of unbound pavement layers. The resulting depth profile is useful for identifying anomalously weak layers.

2.1.4 Sediment Sampling

Sediment sampling will be undertaken with the use of hand excavation tools. A bag of sediment will be collected for subsequent particle size analysis with one sample taken from the mean high water spring, mean sea level and mean low water spring. This will be taken at a maximum depth of 0.5m and typically takes under an hour to complete.

2.2 Geophysical Surveys

These surveys comprising Seismic Refraction Tomography (SRT) and Multichannel Analysis of Surface Waves (MASW) will be undertaken at two locations within Licence Area A, as shown in Appendix A.

2.2.1 Seismic Refraction Tomography

The SRT technique is based on the refraction of seismic energy at the interfaces of geological layers of different velocity (Figure 2.3). A geophysics technician will use a drop weight such as a hammer to transmit a series of

signals into the ground[1]. These geophysical signals will be detected by a series of receivers which will be laid out along a transect line at a set distance, with each receiver connected to a control box. These receivers comprise of geophones with 100mm metal spikes that are inserted into the ground. The signals received by these receivers helps determine velocity of these input signals and infer the depth of underlying objects/interface between layers.

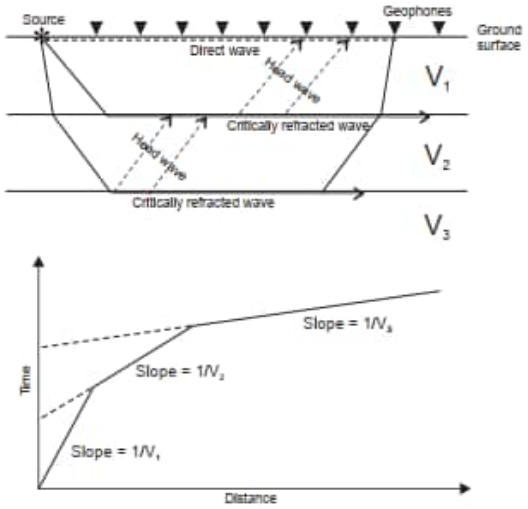

Figure 2.3. SRT Set-Up

2.2.2 Multichannel Analysis of Surface Waves

The MASW technique generates surface waves, which allow the measurement of the variation in soil stiffness with depth (Figure 2.4). A geophysics technician will use a drop weight such as a hammer to transmit a series of signals into the ground. These geophysical signals will be detected by a series of receivers which will be laid out along a transect line at a set distance, with each receiver connected to a control box. These receivers comprise of geophones with 100mm metal spikes that are inserted into the ground. The signals received are used to determine the velocity of surface waves generated. A stiffness profile can be generated and ground properties determined at different depths. A transect line can be numbered at 0.5m, or 1m intervals, all the way along its length. This line will be laid across the study area. This method allows for 15m-70m length of geophysical transect per hour.

[1] Typical noise levels for a hammer onto solid item are around 120dBA.

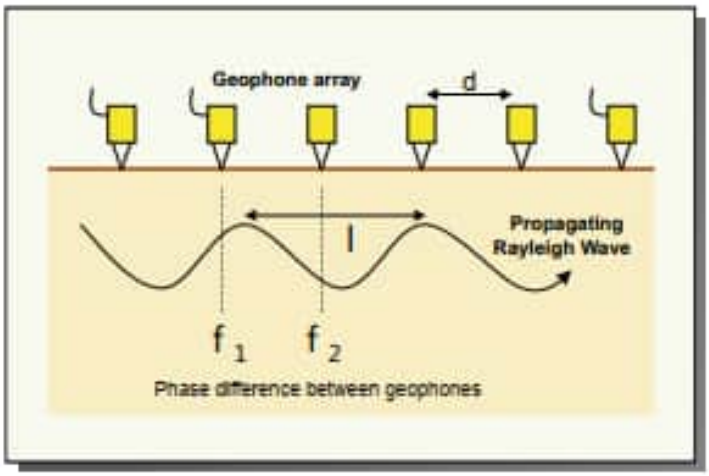

Figure 2.4. MASW Set-Up

2.3 Marine Archaeology Surveys

2.3.1 Licenced Metal Detection Surveys

These will involve a two person intertidal (foreshore) walkover survey using a metal detector, as and where appropriate in the footprint of future ECRIPP works and areas affected by the proposed GI.

2.3.2 Other Archaeological Considerations

Archaeological considerations will be integrated with the planning and execution of the proposed geotechnical and geophysical site investigations (see Sections 2.1 and 2.2) and the resultant data will be assessed for archaeological purposes, as appropriate. Any additional survey requirements agreed in consultation with the Underwater Unit of the National Monuments Service.

2.4 Bathymetric Surveys

The bathymetric and sub-bottom profiling (SBP) surveys are proposed to be carried out within the areas identified. The survey works will require mobilisation of survey vessel(s) with survey equipment on board.

The survey team shall mobilise the survey equipment and carry out all necessary calibrations and verifications of the survey set. Following satisfactory completion of the calibrations and verifications, survey lines shall commence along the planned line plans for the vessel(s).

A qualified and experienced marine mammal observer (MMO) will be appointed to monitor for marine mammals on each survey vessel, to log all relevant events using standardised data forms.

2.4.1 Offshore Bathymetric Surveys

The bathymetric survey will be undertaken with the following parameters:

- A sura nominal planned main line spacing of 20m in water depths below -6m OD.
- A nominal planned main line spacing of 40m in water depths between -6m OD and -10m OD.
- A cross line spacing of 250m, perpendicular to main lines.

In practice, in extreme shallows, lines will be spaced closer than 20m, and around water depths of between 4 - 6m, line spacing may be greater than 20m. Therefore a line spacing of 20m has been assumed to be a mean

line spacing in this region. Line spacing shall be modified in real time whilst on site in order to ensure 100% coverage in the most efficient manner, whilst achieving the project specifications.

Bathymetric survey coverage will be continually assessed and line planning will be adjusted in real time in order to ensure 100% coverage. In order to ensure maximum bathymetric coverage as close as possible up towards mean high water, shoreline survey lines will be carried out during periods of high water. This line will progress simultaneously while collecting bathymetric coverage.

2.4.2 Sub-bottom Profiling Surveys

For the SBP, it is proposed to carry out a single SBP line, in each of the six areas of Multi-Beam Echo Sounder data capture at 300 ±50m offshore of mean high water. In general, shallow-water MBESs operate at a frequency between 100 and 700kHz. A single line of sub-bottom profiler data shall be conducted, around 300m +/-50m from mean high water. These lines have been planned to have the following lengths:

- Licence Area A; SBP Line – 6.4km length
- Licence Area B; SBP Line – 4.1km length
- Licence Area C; SBP Line – 5.5km length
- Licence Area D; SBP Line – 9.1km length
- Licence Area D; SBP Line – 10.4km length

2.5 Ecology Surveys

2.5.1 Breeding Birds – Boat Counts

The sea cliffs in Licence Area C between Bray and Greystones have a high ecological value for coastal birds and their prey. These cliffs are a *key* breeding site for coastal bird species including herring gull (Larus argentatus), common gull (*Larus* canus), black-headed gull (*Chroicocephalus ridibundus*), greater black-backed gull (*Larus marinus*), lesser black-backed gull (*Larus fuscus*), *kittiwake* (*Rissa tridactyla*), fulmar (Fulmarus *glacialis*), guillemot (*Uria aalge*), black guillemot (*Cepphus* grylle), razorbill (*Alca torda*), shag (*Gulosus aristotelis*) and cormorant (*Phalacrocorax carbo*). Additionally, the coastal waters at the base of the cliffs are a key foraging site for these bird species and additional *species* which breed in *the* vicinity which may include arctic tern (*Sterna paradisaea*), common tern (*Sterna hirundo*), little tern (*Sterna albifrons*) and roseate tern (*Sterna dougallii*).

When determining the breeding activity on the cliff face, it is required that at least three surveys are completed between the months of April and August, however the ideal period is between May and June. The survey will be conducted in daylight hours between 07:00 and 18:00. The entire length of the cliff face from grid reference: O 27668 17934 to grid reference O 28717 15209 shall be surveyed which is approximately 3.3km long.

The boat will be driven 100-200m from the cliff face, with surveyors keeping an eye for bird disturbance as this will not allow for an accurate assessment of breeding activity. If the boat is causing disturbance, surveys will move out to a maximum of 400m.

Surveyors will stop approximately every 300m and will spend up to one hour surveying the stretch of cliff face at each point. These distances may be adjusted on site if the aspect of the cliff face blocks the field of view for surveyors. Surveyors will first survey for breeding activity on the cliff face, looking for nesting sites and resting birds. If time allows then a count of birds foraging in the waters at the base of the cliff will be conducted.

Species, breeding activity and number of birds will be drawn onto the printed maps/ iPad mapping app. The entire length of the cliff face will be photographed using a high-quality camera.

It is preferred that surveyors do in situ counts of breeding bird activity. Photographs taken on the day may only be used for counts if the surveyors first check for the accuracy of the photography. However, this method is not

recommended as accuracy tends to be low. This can be done by taking a sample count of 200 birds then photographing the area immediately and repeating this five times. Subsequently, at the desk the photographs can be analysed for accuracy and all other photographs can be used for completing counts with this error reported alongside the count data.

2.5.2 Drop Down Camera Work

During one of the boat survey trips, the drop-down camera work will be conducted. These surveys will be conducted on a day with calm weather conditions to reduce turbidity in the water and allow for maximum camera clarity. A waterproof camera will be lowered to just above the sea floor and images gathered to check for the presence or absence of sandy substrate. The camera will be dropped and will be above the substrate travelling along the entire length of Licence Area C as close to the cliff face as is safe following the boat crew's advice. The camera work will be conducted after the breeding bird surveys are complete to prevent any potential disturbance from effecting those surveys. Footage will be assessed during a desk-based assessment.

2.5.3 Bat Roosting Assessment

During one of the boat survey trips a bat roosting assessment will be undertaken to examine the cliffs for caves and cracks above the sea level and assess these areas for bat roost potential. Upon completion of the breeding bird surveys on the return trip the bat roosting assessment will take place. The boat will drive at a pace guided by ecologists so that all features can be recorded and photographed. Ecologists will instruct the boat crew to stop if required. Potential roosts will be mapped on the iPad and photographs will be taken.

2.5.4 Benthic Ecology Surveys

2.5.4.1 Intertidal Cores

In Licence Area A and B, six replicates will be taken at 15 intertidal core sites, with 75 replicates in total for infaunal analysis and 15 replicates for sediment particle size and chemistry. Each intertidal core will cover an area of approximately 0.01m2, and the core will be taken to a depth of 20cm, sieved and infaunal preserved for laboratory identification. The cores are proposed to be undertaken in September to replicate the overwintering bird period.

2.5.4.2 Intertidal Transects

Intertidal transects are proposed from the high water mark to the low water mark with quadrats undertaken to allow for accurate biotope mapping to be established. Between two and four transects are proposed per 1km of frontage, with up to eight transects completed in one day per team. Where intertidal areas are homogenous then a lower number of transects may be required (>500m apart). In Licence Area A, up to ten intertidal transects are proposed, up to13 in Licence area B, up to three in Licence Area D and up to 88 intertidal transects in Licence Area D.

2.5.4.3 Subtidal Day Grabs

In Licence Area C, up to six 0.1m subtidal day grabs (or equivalent) are proposed to allow the collection of benthic fauna and to allow habitat categorisation, with three replicates for each sample (and up to 18 replicates in total). In Licence Area D, up to three 0.1m subtidal day grabs (or equivalent) are proposed (up to nine replicates in total). The subtidal day grabs would be undertaken by hand between May and August.

3. Methodology

3.1 Guideline Information

3.2 Guidance Documents

This Screening for AA was undertaken taking cognisance of the following guidance:

- Office of the Planning Regulator (2021). Appropriate Assessment Screening for Development Management. OPR Practice Note PN01;
- Appropriate Assessment of Plans and Proposed Schemes in Ireland. Guidance for Planning Authorities (Department of Environment, Heritage and Local Government (DoEHLG) 2010);
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC 2021a);
- Communication from the Commission on the Precautionary Principle (EC 2000);
- Guidance Document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of the concepts of: Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission (EC 2007);
- Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018); and
- Guidance document on the strict protection of animal species of Community interest under the Habitats Directive (EC 2021b).

3.3 Screening Methodology

The steps required for screening include the following:

- Determination of whether a project or plan is directly connected with or necessary to the conservation management of any European sites (the Proposed Development is not directly connected with or necessary to the conservation management of any European sites);
- Description of the details of the project/ plan (including the site characteristics/ plan area);
- Description of the characteristics of European sites that might be affected i.e. identification of qualifying interests (QI) and conservation objectives (CO) that could be affected by the project/ plan;
- Assessment of LSEs on relevant European sites in view of the sites' CO, either individually or in-combination with other plans and projects; and
- A screening assessment to determine if the project/ plan individually or in-combination with other plans and projects could undermine the CO of the site(s) and give rise to LSEs. The assessment of LSEs must be undertaken in the absence of mitigation measures.

3.4 Potential Pathways Used in the Assessment

When assessing the Survey Works, the 'source-pathway-receptor' model is applied taking consideration of all potential impact pathways connecting elements of the Survey Works to European sites in view of their conservation objectives.

The source-pathway-receptor conceptual model is a standard tool in environmental assessment to identify and assess potential impact pathways. In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the pathway means that there is no likelihood for the effect to occur (e.g. no potential for LSEs). Potential impact pathways assessed are:

- Habitat loss including supporting habitat2 and functionally linked habitat[3] – permanent
- Habitat loss including supporting habitat and functionally linked habitat – temporary
- Habitat degradation – changes in water quality
- Habitat degradation – changes in air quality
- Habitat degradation – hydrological changes
- Habitat degradation –hydrogeological changes
- Habitat degradation – spread of invasive species
- Disturbance of species
- Mortality

The source-pathway-receptor model is focused solely on the QIs for which European sites are designated as per the latest conservation objectives from the National Parks and Wildlife Service (NPWS) website[4].

The ZoI is the area over which effects could occur to ecological features from a project. The determination of a ZoI for a project should be identified on a case-by-case basis as there may be an effect on European sites that are at a distance from the works. For example, such an effect may arise where there is a hydrological link between the development site and a European site.

Key considerations in determining the potential ZoI for the Survey Works included:

- Ecological features within and in proximity to the Survey Works;
- Migratory / mobile species of the area;
- Construction activities that may cause a LSE; and
- Linkages to European sites or sensitive habitats connected to those sites.

The source-pathway-receptor model is focused solely on the QIs for which European sites are designated as per the latest conservation objectives from the NPWS website[5].

Table 3.1 defines the source / pathway / receptor model, the zones of influence and the extents of sensitivity of QIs for each potential impact pathway used in the assessment.

[2] Supporting habitat is habitat within a protected site (SPA, SAC or NHA) which supports a QI species which is designated by a separate protected site (SPA, SAC or NHA).

[3] Functionally linked habitat is habitat within unprotected land which supports QI species designated by a protected site (SPA, SAC or NHA) in the vicinity of said land.

4 https://www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives.

5 https://www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives.

Table 3.1: Potential effect pathways

Pathway name	Source / pathway / receptors model	Zone of Influence	Extent of sensitivity of receptors
Habitat loss - permanent	▪ The provision of new infrastructure or permanent change of habitat from a project could result in direct loss of QI habitat or supporting habitat for QI species in a European site, or functionally linked land associated with mobile QI species outside the boundaries of European sites	▪ The ZoI assessed is within the footprint of the Survey Works ▪ Physical loss of habitat is only possible within the boundary of a European site, or within an area of functionally linked land habitat outside of the European site	▪ QI habitats are sensitive within the boundary of their designated site ▪ Supporting habitats of QI species are sensitive within the boundary of their designated site ▪ Functionally linked habitats of QI species are sensitive where suitable habitat is present within the range of the QI species from their designated site
Habitat loss - temporary	▪ Activities including temporary works areas and access routes of a project could result in the temporary loss of habitats , potentially affecting QI habitat or supporting habitat for QI species in a European site, or functionally linked land associated with mobile QI species outside the boundaries of European sites	▪ The ZoI assessed is within the footprint of the Survey Works ▪ Physical loss of habitat is only possible within the boundary of a European site, or within an area of functionally linked land habitat outside of the European site	▪ QI habitats are sensitive within the boundary of their designated site ▪ Supporting habitats of QI species are sensitive within the boundary of their designated site ▪ Functionally linked habitats of QI species are sensitive within suitable habitat that is within the range of the QI species from their designated site
Habitat degradation – changes in water quality	▪ Survey Works, works traffic, including sea vessels and changes in drainage can release oils, chemicals, heavy metals, silt etc. This can directly affect QI species or habitats or affect them indirectly through loss of aquatic prey species, or through changes in their habitats	▪ The ZoI assessed is within the footprint of the Survey Works or within hydrologically linked areas (to the point where effects would be imperceptible such as within the open sea). ▪ 1km has been considered as the ZoI for changes in water quality given the coastal and small-scale nature of the Survey Works.	▪ QI habitats are sensitive within the boundary of their designated site ▪ Supporting habitats of QI species are sensitive within the boundary of their designated site ▪ Functionally linked habitats of QI species are sensitive where suitable habitat is present within the range of the QI species from their designated site
Habitat degradation – changes in land quality	▪ Land quality can be impacted by oil, chemicals, etc during Survey Works. ▪ Land quality can also be affected by sedimentation or silt through run-off during Survey Works and compaction through use by heavy plant ▪ Importing new material into a site has the potential to impact land quality through nourishment and pH changes	▪ The ZoI assessed is within the footprint of the Survey Works. ▪ Changes in land quality could directly affect QI species or habitats or affect QI species indirectly through loss of prey species, or through changes in their habitat.	▪ QI habitats are sensitive within the boundary of their designated site ▪ Supporting habitats of QI species are sensitive within the boundary of their designated site ▪ Functionally linked habitats of QI species are sensitive where suitable habitat is present within the range of the QI species from their designated site

Pathway name	Source / pathway / receptors model	Zone of Influence	Extent of sensitivity of receptors
Habitat degradation – changes in air quality	▪ Plant and vehicles emit exhausts containing pollutants that can deposit on QI habitats, which can cause direct toxic effects on QI species and habitats or degradation of QI habitat	▪ The ZoI assessed is within 200m of the footprint of the project. ▪ Pollutant deposition from vehicles is thought to occur in insignificant amounts beyond 200m from the source. ▪ The levels of emissions created during the Survey Works will be inconsequential and therefore there will be no pathways to any effects.	▪ QI habitats are sensitive within the boundary of their designated site ▪ Supporting habitats of QI species are sensitive within the boundary of their designated site ▪ Functionally linked habitats of QI species are sensitive where suitable habitat is present within the range of the QI species from their designated site
Habitat degradation – hydrological changes	▪ In-stream structures or changes to drainage from a project can cause changes in hydrology, which can alter water volumes and flows, which can in turn change the wetness of habitats or cause erosion or deposition of materials. ▪ Such changes can affect QI habitats or supporting and functionally linked habitats of QI species	▪ The ZoI assessed is within surface water catchments that the footprint of the project lie within. ▪ Surface water changes can occur within catchments as changes in one location affect other locations via watercourses for example. ▪ Given the location of the Survey Works within the intertidal zone changes in hydrology will be inconsequential and therefore there will be no pathway to an effect.	▪ QI habitats are sensitive within the boundary of their designated site ▪ Supporting habitats of QI species are sensitive within the boundary of their designated site ▪ Functionally linked habitats of QI species are sensitive where suitable habitat is present within the range of the QI species from their designated site
Habitat degradation – hydrogeological changes	▪ Activities such as groundworks, excavations and drainage and permanent changes to drainage and abstraction can cause changes to groundwater volumes and flows, which can change the hydrogeology of QI habitats and supporting or functionally linked habitats of QI species	▪ The ZoI assessed is within groundwater catchments that the footprint of the project lie within. ▪ Groundwater changes can occur within catchments as changes in one location affect other locations	▪ QI habitats are sensitive within the boundary of their designated site ▪ Supporting habitats of QI species are sensitive within the boundary of their designated site ▪ Functionally linked habitats of QI species are sensitive where suitable habitat is present within the range of the QI species from their designated site
Habitat degradation – spread of invasive species	▪ Activities can cause the spread of invasive species already within a site (through transfer on plant or within materials moved during earthworks), or by importing materials from outside a site (on sea vessels, on the wheels of plant or delivery vehicles, etc). This can cause the degradation of QI habitats or supporting and functionally linked habitats of QI species	▪ The ZoI assessed is within the permanent and temporary footprint of the Survey Works. ▪ The spread or importing of invasive species can only occur within the boundaries of the Survey Works.	▪ QI habitats are sensitive within the boundary of their designated site ▪ Supporting habitats of QI species are sensitive within the boundary of their designated site ▪ Functionally linked habitats of QI species are sensitive where suitable habitat is present within

Pathway name	Source / pathway / receptors model	Zone of Influence	Extent of sensitivity of receptors
			the range of the QI species from their designated site
Disturbance of species	▪ Survey Works could result in disturbance of QI species through changes in noise, vibration, movement (of people and/or vehicles) and lighting. ▪ Disturbance may lead to the abandonment of breeding, foraging or resting sites by QI species, potentially resulting in increased energy expenditure, reduced fitness and inability to complete lifecycle stages	▪ The ZoI assessed depends on the species being assessed. ▪ 300m is considered to be an appropriate distance to assess disturbance of QI bird species as they are unlikely to be significantly disturbed beyond this distance. ▪ 500m is considered to be the distance at which marine mammals are disturbed by load works, such as piling, due to their heightened senses underwater.	▪ QI species are sensitive within the boundary of their designated site (in supporting habitat) or within functionally linked habitats where suitable habitat is present within the range of the QI species from their designated site
Mortality	▪ Mortality of individuals of QI species could occur directly through killing of individuals by Survey Works or indirectly through death of individuals on roads because their existing commuting routes have been severed or as a result of pollution entering a watercourse and reducing prey count.	▪ The ZoI assessed is within the footprint of the Survey Works, within linked watercourses and along any transport routes including boats. ▪ Direct mortality from activities can only occur within the Survey Works footprint. Indirect mortality can occur within watercourses via pollution events or within habitats that sever species commuting routes.	▪ QI species are sensitive within the boundary of their designated site (in supporting habitat) or within functionally linked habitats where suitable habitat is present within the range of the QI species from their designated site

▪

3.5 Desk Review

The following resources were analysed to inform the baseline description of the licence areas and surrounding environment:

- Aerial imagery (Google Earth; ESRI 2023) (accessed December 2023);
- Environmental Protection Agency (EPA) rivers and water quality data, Water Framework Directive (WFD) status (accessed December 2023) (EPA 2023);
- National Parks and Wildlife Service (NPWS) Mapping of European site boundaries (accessed December 2023) (NPWS 2023a and b);
- Projects from the NPAD (accessed April 2024) (DoEHLG 2023);
- The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview (NPWS 2019a);
- The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments (NPWS 2019b) ;
- The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments (NPWS 2019c);
- Online data available on Natura 2000 sites as held by the NPWS, including the Natura 2000 network Data Form; Site Synopsis; Generic Conservation Objective data (accessed December 2023); and
- Protected and invasive species data from the NBDC database (NBDC ND) fig.

3.6 Site Visit

Ecological site walkover surveys were undertaken in 2023 and relevant information used to inform this AA Screening Report. Site visits included an assessment for mammal activity (otter (*Lutra lutra*), badger (*Meles meles*, American mink (*Mustela vision*) etc.), invasive species survey and a Fossitt (2000) habitat assessment to determine on-site conditions and to map all features. An additional survey was conducted to record any Annex I habitats and a condition assessment as detailed in Irish Vegetation Classification (Perrin, 2019). These surveys were conducted by experienced botanists within Licence Area A only.

Jacobs' ecologists completed monthly wintering bird surveys between October 2022 and March 2023. Further wintering bird surveys are scheduled to be completed between October 2024 and March 2025. The surveys recorded the abundance and distribution of bird species during low and high tide to identify roosting and foraging populations. Particular attention was paid to those species which are qualifying interest species for SPAs.

Jacobs' ecologists completed breeding bird surveys from land between April and June 2023. The surveys focused on the abundance and distribution of breeding wildfowl and seabirds.

4. Baseline Characterisation

The results of the desk-based review and site visits are presented in the following sections. Habitat descriptions below are in the past tense, to reflect their accuracy at a point in the recent past.

4.1 Overview of the Baseline Environment

4.1.1 Habitats (including Annex I)

A desk-based review of the NPWS datasets for Annex I habitats was conducted on the 2 February 2023 which found a number of protected habitats within the Licence Areas. Habitats include mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, *Salicornia* and other annuals colonising mud and sand, embryonic shifting dunes, European dry heaths, reefs, vegetated sea cliffs of the Atlantic and Baltic coasts, perennial vegetation of stony banks, Atlantic salt meadows, Mediterranean salt meadows, calcareous fens and alkaline fens.

Walkover surveys were completed March to August 2023. These surveys mapped the habitats within the licence areas as well as invasive or protected flora and fauna.

4.1.2 Species (Including Annex I Birds and Annex II Species)

A desk-based review of the NBDC on the 2 February 2023 found a number of records from the last 20 years of protected bird species within 1km of the Survey Works. Records for all designated qualifying interest bird species (QIs) were returned. A 1km buffer was chosen to capture all flora and fauna species which occur or frequently use habitats under the footprint of the Survey Works. A 1km buffer reflects the typical species array for both mobile and sessile species in the vicinity of the Survey Works. Results are included at Appendix C.

Records from Irish Wetland Bird Surveys (I-WeBS) were received from BirdWatch Ireland. I-WeBS collects data on wintering wildfowl and waders each year at a number of sites across Ireland. Each licence area has a corresponding I-WeBS survey site and subsites, as shown in Table 4.1. Peak counts of Annex I and QI bird species during the 2022/23 season are shown in Table 4.2.

Table 4.1: Licence areas and corresponding I-WeBS sites and subsites.

Licence Area	I-WeBS sites	I-WeBS subsites
A	Dublin Bay (OU404)	Merrion Gates – Sydney Parade Ave (OU473) Booterstown – Merrion Gates (OU462) Booterstown Reserve (OU461) Dun Laoghaire – Seapoint (OU460)
B	South Dublin Coastline (OU915)	Killiney Beach and Bay (OU916)
C	Bray Harbour (OT907) Bray Beach (OT913) Greystones (OT905)	Bray Harbour (OT907) Bray Beach (OT913) Greystones (OT905)
D	North Wicklow Coastal Marshes (OT401)	Kilcoole – north fields (OT501) Kilcoole – Newcastle (OT903) Kilcoole - Webbs (OT502) Kilcoole – west fields (OT503) Five Mile Point – Newcastle (OT902) Five Mile Point – Newcastle (offshore) (OT914) Killoughter- Newcastle (Beach & offshore) (OT910) Killoughter – Newcastle (Inland: Marsh & Farmland) (OT911) Broad Lough (OT001)

Table 4.2: I-WeBS peak counts of during the 2022/23 winter season. Species in bold indicate a QI of a European Site within the ZoI. A dash (-) has been used where no data was returned.

Species	Designation	I-WeBS sites	2022/23 Peak Count
Bar-tailed godwit (*Limosa lapponica*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	612
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	-
Common tern (*Sterna hirundo*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	6
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	-
Dunlin (*Calidris alpina*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	1386
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	13
Great northern Diver (*Gavia immer*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	1
		Bray Beach and Greystones (Licence Area C)	1
		North Wicklow Coastal Marshes (Licence Area D)	1
Little Gull (*Larus minutus*)	EU Birds Directive: Annex I, Annex II & Annex III species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	3
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	-
Red-throated diver (*Gavia stellata*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	1
		South Dublin Coastline (Licence Area B)	1
		Bray Beach and Greystones (Licence Area C)	2
		North Wicklow Coastal Marshes (Licence Area D)	116
Eurasian curlew (*Numenius arquata*)	EU Birds Directive: Annex II species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	33
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	115
Eurasian teal (*Anas crecca*)	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	77
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	72
Eurasian wigeon (*Mareca penelope*)	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	714
Greylag goose (*Anser anser*)	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	91

Species	Designation	I-WeBS sites	2022/23 Peak Count
Northern shoveler (*Spatula clypeata*)	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	30
Red-breasted merganser (*Mergus serrator*)	EU Habitats Directive: Annex II species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	19
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	-
Black-headed gull (*Chroicocephalus ridibundus*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	627
		South Dublin Coastline (Licence Area B)	16
		Bray Beach and Greystones (Licence Area C)	191
		North Wicklow Coastal Marshes (Licence Area D)	54
Black-legged kittiwake (*Rissa tridactyla*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	1
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	-
Black-tailed godwit (*Limosa limosa*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	680
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	14
Brent goose (*Branta bernicla*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	312
		South Dublin Coastline (Licence Area B)	12
		Bray Beach and Greystones (Licence Area C)	88
		North Wicklow Coastal Marshes (Licence Area D)	45
Common gull (*Larus canus*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	53
		South Dublin Coastline (Licence Area B)	2
		Bray Beach and Greystones (Licence Area C)	2
		North Wicklow Coastal Marshes (Licence Area D)	5
Common redshank (*Tringa totanus*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	246
		South Dublin Coastline (Licence Area B)	2
		Bray Beach and Greystones (Licence Area C)	2
		North Wicklow Coastal Marshes (Licence Area D)	25
Common scoter (*Melanitta nigra*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	1
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	2
Common shelduck (*Tadorna tadorna*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	9
		South Dublin Coastline (Licence Area B)	4
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	5
		Dublin Bay (Licence Area A)	676

Species	Designation	I-WeBS sites	2022/23 Peak Count
Eurasian oystercatcher (*Haematopus ostralegus*)	Protected Species: Wildlife Acts	South Dublin Coastline (Licence Area B)	2
		Bray Beach and Greystones (Licence Area C)	110
		North Wicklow Coastal Marshes (Licence Area D)	8
European shag (*Gulosus aristotelis*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	7
		Bray Beach and Greystones (Licence Area C)	74
		North Wicklow Coastal Marshes (Licence Area D)	58
Great black-backed gull (*Larus marinus*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	6
		South Dublin Coastline (Licence Area B)	3
		Bray Beach and Greystones (Licence Area C)	12
		North Wicklow Coastal Marshes (Licence Area D)	7
Great cormorant (*Phalacrocorax carbo*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	54
		South Dublin Coastline (Licence Area B)	17
		Bray Beach and Greystones (Licence Area C)	4
		North Wicklow Coastal Marshes (Licence Area D)	55
Great crested grebe (*Podiceps cristatus*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	202
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	-
Grey plover (*Pluvialis squatarola*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	8
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	3
Herring gull (*Larus argentatus*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	89
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	68
		North Wicklow Coastal Marshes (Licence Area D)	73
Lesser black-backed gull (*Larus fuscus*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	3
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	2
		North Wicklow Coastal Marshes (Licence Area D)	2
Red knot (*Calidris canutus*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	1250
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	-
Ringed plover (*Charadrius hiaticula*)	Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	18
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	11
		North Wicklow Coastal Marshes (Licence Area D)	1
Purple Sandpiper (*Calidris maritima*)	N/A	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	-

Species	Designation	I-WeBS sites	2022/23 Peak Count
		Bray Beach and Greystones (Licence Area C)	4
		North Wicklow Coastal Marshes (Licence Area D)	-
Sanderling (*Calidris alba*)	N/A	Dublin Bay (Licence Area A)	23
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	-
Turnstone (*Arenaria interpres*)	N/A	Dublin Bay (Licence Area A)	7
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	24
		North Wicklow Coastal Marshes (Licence Area D)	-
Common kingfisher (*Alcedo atthis*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	1
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	1
Little egret (*Egretta garzetta*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	29
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	6
Mediterranean gull (*Larus melanocephalus*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	2
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	1
		North Wicklow Coastal Marshes (Licence Area D)	2
Ruff (*Philomachus pugnax*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	1
Sandwich tern (*Sterna sandvicensis*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	3
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	51
		North Wicklow Coastal Marshes (Licence Area D)	22
Greenland white-fronted goose (*Anser albifrons flavirostris*)	EU Birds Directive: Annex I, Annex II & Annex III species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	3
Whooper swan (*Cygnus cygnus*)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Dublin Bay (Licence Area A)	-
		South Dublin Coastline (Licence Area B)	-
		Bray Beach and Greystones (Licence Area C)	-
		North Wicklow Coastal Marshes (Licence Area D)	71

Wintering bird surveys were conducted from October 2022 to March 2023 which found a number of QI and Annex I bird species using the habitats in the licence areas. These records are outlined in Appendix D. Breeding

bird surveys were conducted from land in April to June 2023 in Licence Areas B, C and D. These results are presented in Appendix E.

A desk-based review of the NBDC on the 2 February 2023 found a number of records from the last 20 years of protected species located within 1km of the licence areas. These records are outlined in Table 4.3. Additionally, a record of an Annex II species not designated by European sites within the ZoI were returned, loggerhead turtle (*Caretta caretta*).

No walkover surveys for other protected species were conducted to inform this AA screening.

Table 4.3: Results of the NBDC desk-based review of Annex II species (not including birds). Species in bold indicated a QI of a European Site within the ZoI.

Species	Designation	Licence area	Number of records	Most recent record
Bottle-nosed Dolphin (*Tursiops truncatus*)	EU Habitats Directive: Annex II & Annex IV species Protected Species: Wildlife Acts	Licence Area A	1	2015
		Licence Area B	64	2019
		Licence Area C	6	2018
		Licence Area D	21	2019
Harbour Porpoise (*Phocoena phocoena*)	EU Habitats Directive: Annex II & Annex IV Protected Species: Wildlife Acts	Licence Area A	7	2018
		Licence Area B	193	2020
		Licence Area C	88	2020
		Licence Area D	44	2021
Common Seal (*Phoca vitulina*)	EU Habitats Directive: Annex II & Annex IV Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	2	2018
		Licence Area C	-	-
		Licence Area D	2	2018
Grey Seal (*Halichoerus grypus*)	EU Habitats Directive: Annex II & Annex IV Protected Species: Wildlife Acts	Licence Area A	7	2021
		Licence Area B	21	2021
		Licence Area C	34	2021
		Licence Area D	39	2022
Loggerhead Turtle (*Caretta caretta*)	EU Habitats Directive: Annex II & IV Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	1	2004
		Licence Area C	-	-
		Licence Area D	-	-
European Otter (*Lutra lutra*)	EU Habitats Directive: Annex II & Annex IV Protected Species: Wildlife Acts	Licence Area A	2	2015
		Licence Area B	6	2016
		Licence Area C	1	1980
		Licence Area D	36	2018

4.1.3 Aquatic Environment

The Survey Works are in the vicinity of a number of watercourses and bodies of transitional and coastal water. The Irish Sea is hydrologically linked to the licence areas as the works extend from Mean High Water Spring (MHWS) seaward and there is a link via surface water run-off or seepage through the shingle shore, which is highly porous.

Broad Lough and Kilcoole Marsh are located within 100m of the Survey Works and are hydrologically linked through surface water run-off. BREWERY STREAM_010 enters the Dublin Bay within the Survey Works area. KILL OF THE GRANGE STREAM_010, SHANGANAGH_010, KILRUDDERY_DEERPARK_010 and THREE TROUTS

STREAM_010 enter the Southwestern Irish Sea – Killiney Bay (HA10) within the Survey Works area. Kilcoole Stream_010 and NEWCASTLE (WICKLOW)_010 flow adjacent to the Survey Works before flowing into Kilcoole Marsh. Inchanappa_010 flows adjacent to the Survey Works before flowing into Broad Lough. The watercourses, transitional waterbodies and coastal waterbodies crossing or adjacent to the Survey Works are summarised in Table 4.4.

Table 4.4: Summary of watercourses, transitional and coastal waterbodies interacting with the licence areas (EPA, 2016-2021 data set)

Licence Area	Name	European Code	WFD status	Risk status
A	BREWERY STREAM_010	IE_EA_09B130400	Moderate	Under review
A	Dublin Bay	IE_EA_090_0000	Good	Not at risk
B	KILL OF THE GRANGE STREAM_010	IE_EA_10K020200	Poor	At risk
B	SHANGANAGH_010	IE_EA_10S010600	Moderate	Not at risk
B	Irish Sea Dublin (HA 09)	IE_EA_070_0000	Good	Not at risk
B-D	Southwestern Irish Sea – Killiney Bay (HA10)	IE_EA_100_0000	High	Not at risk
C	KILRUDDERY_DEERPARK_010	IE_EA_10K520710	Moderate	Under review
D	Kilcoole Marsh	IE_EA_120_0100	Moderate	Under review
D	THREE TROUTS STREAM_010	IE_EA_10T030580	Good	Not at risk
D	Kilcoole Stream_010	IE_EA_10K010580	Moderate	At risk
D	NEWCASTLE (WICKLOW)_010	IE_EA_10N010600	Moderate	At risk
D	Broad Lough	IE_EA_130_0100	Moderate	At risk
D	Inchanappa_010	IE_EA_10I020430	Good	Under review

4.1.4 Invasive Species

A desk-based review of the NBDC on the 2 February 2023 found a number of records of Third Schedule invasive species within 1km of the licence areas. These records are outlined in Table 4.5.

Table 4.5: Results of the NBDC desk-based review of invasive species.

Species	Licence Area	Number of records	Most recent record
American skunk-cabbage (*Lysichiton americanus*)	Licence Area A	-	-
	Licence Area B	1	2019
	Licence Area C	-	-
	Licence Area D	-	-
Canadian waterweed (*Elodea canadensis*)	Licence Area A	-	-
	Licence Area B	1	2009
	Licence Area C	-	-
	Licence Area D	-	-
Giant hogweed (*Heracleum mantegazzianum*)	Licence Area A	-	-
	Licence Area B	7	2019
	Licence Area C	2	2021
	Licence Area D	-	-
Himalayan balsam (*Impatiens glandulifera*)	Licence Area A	1	2019
	Licence Area B	-	-

Species	Licence Area	Number of records	Most recent record
	Licence Area C	1	2022
	Licence Area D	-	-
Japanese knotweed (*Fallopia japonica*)	Licence Area A	15	2020
	Licence Area B	1	2020
	Licence Area C	-	-
	Licence Area D	6	2022
Nuttall's waterweed (*Elodea nuttallii*)	Licence Area A	-	-
	Licence Area B	2	1992
	Licence Area C	-	-
	Licence Area D	-	-
Rhododendron (*Rhododendron ponticum*)	Licence Area A	-	-
	Licence Area B	-	-
	Licence Area C	-	-
	Licence Area D	2	2018
Sea-buckthorn (*Hippophae rhamnoides*)	Licence Area A	-	-
	Licence Area B	4	2021
	Licence Area C	-	-
	Licence Area D	12	2022
Three-cornered leek (*Allium triquetrum*)	Licence Area A	5	2022
	Licence Area B	12	2022
	Licence Area C	-	-
	Licence Area D	2	2022
Harlequin ladybird (*Harmonia axyridis*)	Licence Area A	2	2022
	Licence Area B	1	2019
	Licence Area C	-	-
	Licence Area D	-	-
American mink (*Mustela vison*)	Licence Area A	-	-
	Licence Area B	-	-
	Licence Area C	-	-
	Licence Area D	2	2021
Brown rat (*Rattus norvegicus*)	Licence Area A	1	2014
	Licence Area B	1	2012
	Licence Area C	1	2016
	Licence Area D	1	2013
Grey squirrel (*Sciurus carolinensis*)	Licence Area A	26	2022
	Licence Area B	12	2022
	Licence Area C	6	2022
	Licence Area D	4	2022

Records of a number of third schedule and other invasive species were recorded during site visits in July 2023. Those recorded within the licence areas are detailed in Table 4.6 below.

Table 4.6: Invasive species results from the walkover surveys, in July 2023.

Common name	Scientific name	Licence Area(s)	Description
Sea buckthorn	*Hippophae rhamnoides*	A, D	The invasive species was present along the foreshore but not within the Proposed Work area
Giant hogweed	*Heracleum mantegazzianum*	A, D	The invasive species was present along the foreshore but not within the Proposed Work area
Three-cornered leek	*Allium triquetrum*	A, D	The invasive species was present along the foreshore but not within the Proposed Work area

4.2 European Sites Within the ZoI of the Survey Works

The Survey Works were examined with reference to their location to European sites[6] (see Appendix A, Figure 1), and taking account of the potential effect pathways outlined in Table 3.1, the following European sites are considered to be within the Zone of Influence (ZoI) of the Survey Works:

- South Dublin Bay SAC (000210) – Licence Area A located within SAC (NPWS, 2013a);
- Bray Head SAC (000714) – Licence Area C located within SAC (NPWS, 2017a);
- The Murrough Wetlands SAC (002249) – Licence Area D located within SAC (NPWS, 2021);
- Rockabill to Dalkey Island SAC (003000) – located 4km east of works (direct distance) and 4.5km east hydrological distance (NPWS, 2013b);
- Wicklow Mountains SAC (002122) - located 8.9km west direct distance, 11.8km upstream hydrological connection (NPWS, 2017b);
- Lambay Island SAC (000204) - located 21.8km north east direct distance and 23.2km hydrological distance (NPWS, 2013c);
- Codling Fault Zone SAC (003015) - located 28.5km north east direct distance and hydrological distance (NPWS, 2023c);
- South Dublin Bay and River Tolka Estuary SPA (004024) – Licence Area A located within SPA (NPWS, 2015a);
- The Murrough SPA (004186) – Licence Area C located within SPA (NPWS, 2022a);
- Dalkey Islands SPA (004172) – located 0.5km north east both direct distance and hydrological distance (NPWS, 2022b);
- Wicklow Head SPA (004127) - – located 2.5km south east both direct distance and hydrological distance (NPWS, 2022c);
- North Bull Island SPA (004006) – located 4.8km north east both direct distance and hydrological distance (NPWS, 2015b);
- North-West Irish Sea SPA (004236) – located 4.8km north east both direct distance and hydrological distance (NPWS, 2023d);
- Wicklow Mountains SPA (004040) - located 9.4km west direct distance, no hydrological connection (NPWS, 2022d);
- Howth Head Coast SPA (004113) – located 9.9km north east both direct distance and hydrological distance (NPWS, 2022e);

[6] Distances are calculated to the nearest point of all the schemes.

- Baldoyle Bay SPA (004016) – located 10.3km north direct distance and 17.5km hydrological distance (NPWS, 2013d);
- Irelands Eye SPA (004117) – located 13.1km north east direct distance and 14.2km hydrological distance (NPWS, 2022f);
- Malahide Estuary SPA (004025) – located 14.9km north direct distance and 20.7km hydrological distance (NPWS, 2013e);
- Rogerstown Estuary SPA (004015) – located 20.5km north direct distance and 24.7km hydrological distance (NPWS, 2013f);
- Lambay Island SPA (004069) – located 21.8km north east direct distance and 23.2km hydrological distance (NPWS, 2022g);
- Skerries Islands SPA (004122) - located 29.2km north direct distance and 24.7km hydrological distance (NPWS, 2022h);
- Rockabill SPA (004014) - located 29.7km north west direct distance and 33.2km hydrological distance (NPWS, 2013g); and
- Poulaphouca Reservoir SPA (004063) - located 23.9km south west direct distance, no hydrological connection (NPWS, 2022i).

4.2.1 Other European Sites

The following European sites are within the vicinity of the Survey Works but considered outside the ZoI:

- Ballyman Glen SAC (000713) is located 2.8km west and 3.2km upstream of the Survey Works via DARGLE_030 and DARGLE_040. It is designated for petrifying springs with tufa formation and alkaline fens (NPWS, 2013h). These are Ballyman Glen SAC does not have species as qualifying interest (i.e. no mobile birds and mammals). The SAC is in a separate bedrock aquifer to the Survey Works. Given the overland distance, lack of hydrological connectivity/ ecological connectivity and nature of the works, this SAC is considered outside the ZoI of the Survey Works.
- Glen of the Downs SAC (000719) is located 3.4km west and 4.2km upstream of the Survey Works via THREE TROUTS STREAM_010. It is designated for its old sessile oak woods (NPWS, 2013i). Glen of the Downs SAC does not have species as a qualifying interest. Given the overland distance and lack of hydrological connectivity/ ecological connectivity, this SAC is considered outside the ZoI of the Survey Works.
- Wicklow Reef SAC (002274) is located 3.8km south east and is hydrological linked over the same distance through the Irish Sea. Wicklow Reef SAC is designated for reefs. It does not have species as a qualifying interest. (NPWS, 2013j). Given the hydrological distance and small-scale nature of the works this SAC is considered outside the ZoI of the Survey Works.
- North Dublin Bay SAC (000206) is located 4.8km north east and hydrological linked over the same distance through the Irish Sea. (NPWS, 2013k). It is designated for estuarine and dune habitats as well as the species Petalwort (Petalophyllum ralfsiiI). Given the hydrological distance and small-scale nature of the works, this SAC is considered outside the ZoI of the Survey Works.
- Knocksink Wood SAC (000725) is located 5.6km west and 6.1km upstream of the Survey Works via GLENCULLEN_010, GLENVULLEN_020, DARGLE_030 and DARGLE_040. Knocksink Wood SAC is designated for petrifying springs, old sessile oak woods and alluvial forests (NPWS, 2019d). It does not have species as qualifying interest. Given the overland distance and lack of hydrological connectivity/ ecological connectivity, this SAC is considered outside the ZoI of the Survey Works.
- Magherabeg Dunes SAC (001766) is located 6.8km south and hydrologically linked through the Irish Sea over 8.4km (NPWS, 2017c). It is designated for dune habitats with no species QIs. Given the intervening distance and small-scale nature of the Survey Works, this SAC is considered outside the ZoI of the Survey Works.

- Carriggower Bog SAC (000716) is located 7.7km west and 9.9km upstream of the Survey Works via NEWTOWNMOUNTKENNEDY_010 and NEWTOWNMOUNTKENNEDY_020. Carriggower Bog SAC is designated for transition mires and quaking bogs and does not have species as qualifying interest (NPWS, 2013l). Given the overland distance and lack of hydrological connectivity/ ecological connectivity, this SAC is considered outside the ZoI of the Survey Works.
- Deputy's Pass Nature Reserve SAC (000717) is located 8.5km south west with no hydrological connection. It is designated for old sessile oak woods (NPWS, 2013m). Deputy's Pass Nature Reserve SAC does not have species as qualifying interest. Given the overland distance and lack of hydrological connectivity/ ecological connectivity, this SAC is considered outside the ZoI of the Survey Works.
- Howth Head SAC (000202) is located 8.7km north east and is hydrological linked over the same distance through the Irish Sea. It is designated for vegetated sea cliffs and coastal heath and does not have species as qualifying interest (NPWS, 2013n). Given the overland distance and nature of the designated habitats, this SAC is considered to be outside the ZoI of the Survey Works.
- Baldoyle Bay SAC (000199) is located 10.3km north and hydrologically linked over 16.1km through the Irish Sea. It is designated for mudflats and sandflats, annuals colonising mud and sand and Atlantic and Mediterranean salt meadows (NPWS, 2013o). Baldoyle Bay SAC does not have species as qualifying interest. It is considered that any potential pollution event within coastal waters will be ecologically inconsequential. Given the overland distance and hydrological distance, this SAC is considered to be outside the ZoI of the Survey Works.
- Ireland's Eye SAC (002193) is located 13.1km north east and hydrologically linked over 14.2km through the Irish Sea. It is designated for perennial vegetation of stony banks and vegetated sea cliffs and does not have species as qualifying interest (NPWS, 2014). Given the overland distance and nature of the designated habitats, this SAC is considered to be outside the ZoI of the Survey Works.
- Malahide Estuary SAC (000205) is located 14.2km north and hydrologically linked over 20.9km through the Irish Sea. It is designated for mudflats and sandflats, annuals colonising mud and sand, Atlantic and Mediterranean salt meadows, shifting dunes along the shoreline and fixed coastal dunes (NPWS, 2017d). Malahide Estuary SAC does not have species as qualifying interest. It is considered that any potential pollution event within coastal waters will be ecologically inconsequential. Given the overland distance and hydrological distance, this SAC is considered to be outside the ZoI of the Survey Works.
- Rogerstown Estuary SAC (000208) is located 20.8km north and hydrologically linked over 25.9km through the Irish Sea. It is designated for estuary, mudflats and sandflats, annuals colonising mud and sand, Atlantic and Mediterranean salt meadows, shifting dunes along the shoreline and fixed coastal dunes (NPWS, 2013p). Rogerstown Estuary SAC does not have species as qualifying interest. It is considered that any potential pollution event within coastal waters will be ecologically inconsequential. Given the overland distance and hydrological distance, this SAC is considered to be outside the ZoI of the Survey Works.

4.3 Identification of Relevant European Sites and QIs

Table 4.7 identifies the relevant European sites, whose designated area or functionally linked land lies within one or more of the ZoIs and therefore requires consideration for the potential for LSE. No ecological pathway or functional link was identified between the Survey Works and other European sites other than those identified in Table 4.3.

Table 4.7: Assessment of the Proposed Development's ZoI. QI in grey are outside ZoI and won't be assessed further.

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
Special Areas of Protection				
South Dublin Bay SAC (000210) 0m. Within Licence Area A	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works.	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] *Salicornia* and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in South Dublin Bay SAC, which is defined by the following list of attributes and targets: ▪ The permanent habitat area is stable or increasing; ▪ Maintain the extent of the *Zostera*-dominated community; ▪ Conserve the high quality of the *Zostera*-dominated community; and ▪ Conserve the following community type in a natural condition: Fine sands with *Angulus tenuis* community complex. No conservation objectives were present Annual vegetation of drift lines [1210] for South Dublin Bay SAC. Conservation objectives listed for The Murrough Wetlands SAC can be used as proxy. No conservation objectives were present *Salicornia* and other annuals colonising mud and sand for South Dublin Bay SAC. Conservation objectives listed for North Dublin Bay SAC can be used as proxy and are as follows: To restore the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand in North Dublin Bay SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is maintained or increased ▪ Habitat distribution does not decline or change
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, the SAC is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, the SAC is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	500m from project (Disturbance of species)	N/A. No mobile designated QI species are present.		
	1km from project (Habitat degradation – changes in water quality)	**Yes, SAC is within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, the Survey Works are present within the same surface water catchment.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No, groundwater is absent from the SAC habitats.		▪ The presence/absence of physical barrier is maintained or restored ▪ Creeks and pans structure and tidal regime are maintained ▪ The vegetation structure (zonation, vegetation height) is maintained ▪ The vegetation cover is maintained higher than 90% outside creeks ▪ The vegetation composition is maintained (with maintenance of species-poor communities listed in SMP) ▪ Annual spread of *Spartina anglica* has to be maintained lower than 1% No conservation objectives were present Embryonic shifting dunes for South Dublin Bay SAC. Conservation objectives listed for North Dublin Bay SAC can be used as proxy and are as follows: To restore the favourable conservation condition of Embryonic shifting dunes in North Dublin Bay SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is maintained or increased ▪ Habitat distribution does not decline or change ▪ The presence/absence of physical barrier is maintained or restored ▪ The vegetation structure (zonation) is maintained ▪ More than 95% of the vegetation cover of sand couch (*Elytrigia juncea*) and/or lyme-grass (*Leymus arenarius*) is healthy ▪ The presence of species-poor communities with typical species: sand couch (*Elytrigia juncea*) and/or lyme-grass (*Leymus arenarius*) is maintained

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Negative indicator species are maintained at level inferior to the 5% of the cover
Bray Head SAC (000714) 0m. Within Licence Area C	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Bray Head SAC, which is defined by the following list of attributes and targets: ▪ The habitat area is stable ▪ The habitat distribution does not decline ▪ No alteration occurs to natural functioning of geomorphological and hydrological processes, due to artificial barriers ▪ Vegetation structure (zonation, height) are maintained ▪ Vegetation composition is maintained as follow: typical species and sub-species communities are maintained (Barron et al., 2011), negative indicator species cover is less than 5%, bracken and woody species are respectively less than 10% and 20%. To restore the favourable conservation condition of European dry heaths in Bray Head SAC, which is defined by the following list of attributes and targets: ▪ The habitat area is stable or increasing ▪ The habitat distribution does not decline ▪ Soil nutrients are maintained ▪ Vegetation community diversity is maintained ▪ Vegetation composition is as follow: lichen and bryophytes are present at each monitoring stop, the cover of number of positive indicator species is 50% for siliceous dry heath and 50-75% for calcareous dry heath,
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, the SAC is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, the SAC is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	500m from project (Disturbance of species)	N/A. No mobile designated QI species are present.		
	1km from project (Habitat degradation – changes in water quality)	**Yes, the SAC is within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, the Survey Works are present within the same surface water catchment.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, the Survey Works are present within the same groundwater catchment**		dwarf shrubs cover is less than 50%, negative indicator species and non-native species covers are both less than 1%, native trees and shrubs are less than 20%, bracken is less than 10%, soft rush is less than 10%. ▪ Vegetation structure shows limited signs of damage (low level of senescent ling and signs of browsing, no signs of burning, all growth phases of ling present, low percentage of disturbed bare ground) ▪ Distribution and population sizes of rare, threatened or scarce species associated with the habitat are not in decline
The Murrough Wetlands SAC (002249) 0m. Within Licence Area D	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Annual vegetation of drift lines [1210] Perennial vegetation of stony banks [1220] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Calcareous fens with *Cladium* mariscus and species of the *Caricion davallianae* [7210] Alkaline fens [7230]	To restore the favourable conservation condition of Annual vegetation of drift lines in The Murrough Wetlands SAC, which is defined by the following list of attributes and targets: ▪ The habitat area is stable or increasing ▪ The habitat distribution does not decline ▪ The natural circulation of sediment and organic matter is restored ▪ Vegetation structure (zonation) is maintained ▪ Vegetation composition is as follow: typical species and sub-communities are maintained, cover of native negative indicator species is low (based on Delaney et al., 2013), non-native species cover is less than 20% To restore the favourable conservation condition of Perennial vegetation of stony banks in The Murrough Wetlands SAC, which is defined by the following list of attributes and targets: ▪ The habitat area is stable or increasing ▪ The habitat distribution does not decline
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, the SAC is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, the SAC is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	500m from project (Disturbance of species)	N/A. No mobile designated QI species are present.		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	1km from project (Habitat degradation – changes in water quality)	**Yes, SAC is within the ZoI for habitat degradation – changes in water quality.**		▪ The natural circulation of sediment and organic matter is restored ▪ Habitat affected by disturbance is less than 20% ▪ Vegetation structure (zonation) is maintained ▪ Vegetation composition is as follow: communities and typical species maintained, native and negative indicator species and non-native species covers are low (targets based on Martin et al., 2017) To restore the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) in The Murrough Wetlands SAC, which is defined by the following list of attributes and targets: ▪ The habitat area is stable or increasing ▪ The habitat distribution does not decline ▪ No occurrence of human disturbance on hydrology ▪ Vegetation structure is as follow: plant height standard deviation more than 5, cover of disturbed ground less than 5%, zonation is adequate, no loss of natural transitions. ▪ Vegetation composition as follow: Typical species in adequate number (based on Brophy et al., 2019), no establishment of invasive species such as *Spartina* spp. ▪ No signs of infilling, reclamation, turf-cutting or pollution or other negative indicators ▪ Distribution or population sizes of rare, threatened or scarce species associated with the habitat does not decline
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, the SAC is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, the SAC is present within the groundwater catchment**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				To restore the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) in The Murrough Wetlands SAC, which is defined by the following list of attributes and targets: ▪ The habitat area is increasing ▪ The habitat distribution does not decline ▪ No occurrence of human disturbance on hydrology ▪ Vegetation structure is as follow: cover of disturbed ground less than 5%, no loss of natural transitions ▪ Vegetation composition is as follow: Minimum number of typical species based on Brophy et al., 2019, no establishment of invasive species such as *Spartina* spp. ▪ No signs of infilling, reclamation, turf-cutting or pollution or other negative indicators ▪ Distribution or population sizes of rare, threatened or scarce species associated with the habitat does not decline To restore the favourable conservation condition of Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae** in The Murrough Wetlands SAC, which is defined by the following list of attributes and targets: ▪ The habitat area is stable or increasing ▪ The habitat distribution does not decline ▪ Soil pH and nutrients status are maintained ▪ Active peat formation are maintained ▪ Natural hydrological regimes and drainage conditions are maintained or restored ▪ Water quality (including pH and nutrient levels) is maintained

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Vegetation composition is as follow: cover of *Cladium mariscus* at least 25%, cover of typical vascular plants is maintained adequate, cover of native negative indicator species is at insignificant levels, cover of non-native species is less than 1%, covered of scattered native trees and shrubs us less than 10%, cover of algae is less than 2%. ▪ The height of live shoot is over 1m Disturbed proportion of vegetation cover where tufa is present is less than 1% ▪ Distribution or population sizes of rare, threatened or scarce species associated with the habitat does not decline, and features of local distinctiveness are maintained ▪ Transitional areas between fen and adjacent habitats are maintained or restored To restore the favourable conservation condition of Alkaline fens in The Murrough Wetlands SAC, which is defined by the following list of attributes and targets: ▪ The habitat area is stable or increasing ▪ The habitat distribution does not decline ▪ Soil pH and nutrients status are maintained ▪ Active peat formation are maintained ▪ Natural hydrological regimes and drainage conditions are maintained or restored ▪ Water quality (including pH and nutrient levels) is maintained ▪ Community vegetation diversity is maintained ▪ Vegetation composition is as follow: typical brown mosses and typical vascular plants maintained adequate, native negative indicator species at insignificant level,

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				non-native species cover less than 1%, cover of scattered trees and shrubs less than 10%, algal cover less 2%. ▪ Vegetation structure is as follow: at least 50% of the live leaves/flowering shoots are more than either 5cm or 15cm ▪ Disturbed bare ground and proportion of vegetation cover where tufa is present are respectively less than 1% and 1% ▪ Distribution or population sizes of rare, threatened or scarce species associated with the habitat does not decline, and features of local distinctiveness are maintained ▪ Transitional areas between fen and adjacent habitats are maintained or restored
Rockabill to Dalkey Island SAC (003000) 4km east direct distance and 4.5km east hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Reefs [1170] Harbour Porpoise (*Phocoena phocoena*) [1351]	To maintain the favourable conservation condition of Reefs in Rockabill to Dalkey Island SAC, which is defined by the following list of attributes and targets: ▪ The permanent habitat area is stable or increasing ▪ The distribution of reef is stable of increasing ▪ Community structure Current-swept subtidal reef community complex in conserved To maintain the favourable conservation condition of Harbour porpoise in Rockabill to Dalkey Island SAC, which is defined by the following list of attributes and targets: ▪ Access to suitable areas for the species is not restricted by artificial barriers
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked habitat is present within the ZoI for temporary habitat loss and mortality.**		
	200m from project (Habitat degradation – changes in air quality)	No, the site and functionally linked habitat are outside the ZoI for habitat degradation -changes in air quality and therefore there is no pathway to an effect.		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	500m from project (Disturbance of species)	**Yes, functionally linked habitat is present within the ZoI for disturbance.**		▪ Activities disturbance is maintained at levels that does not adversely affect the species
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked habitat is present within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	No, the site and functionally linked habitat are outside the surface water catchment and therefore there is no pathway to an effect.		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No, the site and functionally linked habitat are outside the groundwater catchment and therefore there is no pathway to an effect.		
Wicklow Mountains SAC (002122) 8.9km west direct distance, 11.8km upstream hydrological connection	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with Erica *tetralix* [4010] European dry heaths [4030]	To maintain the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) in Wicklow Mountains SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Typical species are present and in good conditions, and their abundance and distribution is maintained ▪ Vegetation zonation is present well distributed and in good condition ▪ Depth of vegetation is maintained ▪ Hydrological regime is maintained ▪ Lake substratum quality is maintained
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked habitat is present within the ZoI for temporary habitat loss and mortality.**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked is present within the ZoI for habitat degradation – changes in air quality.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	500m from project (Disturbance of species)	**Yes, functionally linked habitat is present within the ZoI for disturbance.**	Alpine and Boreal heaths [4060] Calaminarian grasslands of the *Violetalia calaminariae* [6130] Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] Blanket bogs (* if active bog) [7130] Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110] Calcareous rocky slopes with chasmophytic vegetation [8210] Siliceous rocky slopes with chasmophytic vegetation [8220] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] Otter (*Lutra lutra*) [1355]	▪ Water transparency is maintained ▪ Water nutrient are maintained or restored at their original concentration ▪ Phytoplankton biomass and composition are maintained ▪ Algal cover and EPA phytobenthos metric, Macrophyte status, Water colour, dissolved organic Carbon (DOC) are maintained or restored ▪ Acidification status is maintained ▪ Turbidity is maintained appropriate to support the habitat ▪ Fringing habitat area and condition are maintained To maintain the favourable conservation condition of Natural dystrophic lakes and ponds in Wicklow Mountains SAC, which is defined by the following list of attributes and targets ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Typical species are present and in good conditions, and their abundance and distribution is maintained ▪ Vegetation zonation is present well distributed and in good condition ▪ Depth of vegetation is maintained ▪ Hydrological regime is maintained ▪ Lake substratum quality is maintaine ▪ Water transparency is maintained ▪ Water nutrient are maintained or restored at their original concentration ▪ Phytoplankton biomass and composition are maintained
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked habitat is present within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, the SAC and functionally linked habitat is within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No, the site and functionally linked habitat are outside the groundwater catchment and therefore there is no pathway to an effect.		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Algal cover and EPA phytobenthos metric, Macrophyte status, Water colour, dissolved organic Carbon (DOC) are maintained or restored ▪ Acidification status is maintained ▪ Turbidity is maintained appropriate to support the habitat ▪ Fringing habitat area and condition are maintained To restore the favourable conservation condition of Northern Atlantic wet heaths with *Erica tetralix* in Wicklow Mountains SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Soil nutrients are maintained ▪ Vegetation community diversity is maintained ▪ Cross-leaved heath (*Erica tetralix*) is present within a 20m radius of each monitoring stop ▪ Cover of positive indicator species is at least 50%, cover of Cladonia and Sphagnum species, Racomitrium lanuginosum and pleurocarpous mosses are at least 10%, cover of ericoid species and crowberry is at least 15%, cover of dwarf shrubs is lower than 75%, total cover of negative indicator species and non-native species are both lower than 1 %, cover of scattered trees and scrubs is lower than 20%, cover of bracken is lower than 10%, cover of soft rush is lower than 10% ▪ Less than 10% of sphagnum cover is damaged ▪ Less than 33% collectively of the last complete growing season's shoots of ericoids, crowberry (*Empetrum*

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				nigrum) and bog-myrtle (*Myrica gale*) have signs of browsing ▪ No sign of burning is present in sensitive areas ▪ Disturbed bare ground is lower than 10% ▪ Area showing signs of drainage from heavy trampling, tracking or ditches is lower than 10% ▪ Rare, threatened or scarce species associated with the habitat are not in decline To restore the favourable conservation condition of European dry heaths in Wicklow Mountains SAC which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Soil nutrients are maintained ▪ Vegetation community diversity is maintained ▪ At each monitoring stops, lichens and bryophytes species are at least three, and number of positive indicators at least two ▪ Cover of positive indicator species is at least 50% for siliceous dry heath and 50-75% for calcareous dry heath ▪ Dwarf shrub cover is lower than 50%, total cover of both non-native and invasive species is lower than 1%, cover of scattered native shrubs and trees is lower than 20%, cover of both bracken and soft rush is lower than 10%; senescent ling is lower of 50% ▪ Less than 33% collectively of the last complete growing season's shoots of ericoids, crowberry (*Empetrum nigrum*) and bog-myrtle (*Myrica gale*) have signs of browsing

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ No sign of burning is present in sensitive areas ▪ Growth phase of ling occurs throughout ▪ Rare, threatened or scarce species associated with the habitat are not in decline To restore the favourable conservation condition of Alpine and Boreal heaths in Wicklow Mountains SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Soil nutrients are maintained ▪ Vegetation community diversity is maintained ▪ At each monitoring stops, lichens and bryophytes species are at least three, and number of positive indicators at least two ▪ Cover of positive indicator species is at least 66% ▪ Dwarf shrub cover is lower than 10%, total cover of negative indicator species is lower than 10%, cover of non-native species is lower than 1% ▪ Sign of grazing are lower than 10% ▪ Less than 33% collectively of the last complete growing season's shoots of ericoids, crowberry (*Empetrum nigrum*) and bog-myrtle (*Myrica gale*) have signs ▪ Browsing ▪ No sign of burning is present in sensitive areas ▪ Covered of disturbed bare ground is lower than 10% ▪ Rare, threatened or scarce species associated with the habitat are not in decline

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				To maintain the favourable conservation condition of Calaminarian grasslands of the *Violetalia calaminariae* in Wicklow Mountains SAC which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Open ground is maintained ▪ High copper levels of soil are maintained ▪ Low and open vegetation is maintained ▪ Metallophyte bryophytes population and diversity are maintained To restore the favourable conservation condition of Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) in Wicklow Mountains SAC which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Soil nutrients are maintained ▪ Vegetation community diversity is maintained ▪ At each monitoring stops, number of positive indicators species are at least seven, and high quality indicator species are at least two for rich examples and one for poor examples ▪ Species richness is at least 25 ▪ Cover of non-native species is lower than 1, cover of negative indicator species is individually less than 10% and collectively less than 20%

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Cover of sphagnum species is lower than 10%, cover of Polytrichum is lower than 25%, cover of shrubs or bracken is lower than 5% ▪ Graminoid ratio is 20-90% ▪ Proportion of the sward is 25% and it is between 5cm and 50cm tall ▪ Cover of litter is lower than 10% ▪ Area with grazing or disturbance levels are less than 20m^2 ▪ Rare, threatened or scarce species associated with the habitat are not in decline To restore the favourable conservation condition of Blanket bogs (if active bog) in Wicklow Mountains SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Soil nutrients are maintained ▪ At least 99% of total Annex I blanket bog area is active ▪ Natural hydrology is not affected ▪ Vegetation communities are maintained ▪ At each monitoring stops, number of positive indicators species are at least seven ▪ Cover of bryophytes and lichen is at least 10 ▪ Cover of potential dominant species is lower than 75% ▪ Covers of negative and non-native species are both lower than 1%, cover of scatter native shrubs and trees is lower than 10%, damaged Sphagnum cover is lower than 10%

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Less than 33% collectively of the last complete growing season's shoots of ericoids, crowberry (*Empetrum nigrum*) and bog-myrtle (*Myrica gale*) have signs of browsing ▪ No sign of burning is present in sensitive areas ▪ Covered of disturbed bare ground is lower than 10% ▪ Area showing signs of drainage from heavy trampling, tracking or ditches is less than 10% ▪ Rare, threatened or scarce species associated with the habitat are not in decline ▪ Less than 5% of the greater bog mosaic comprises erosion gullies and eroded areas To restore the favourable conservation condition of Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) in Wicklow Mountains SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Soil nutrients are maintained ▪ Bryophyte and non crustose lichen is at least 5% ▪ Covers of negative and non-native species are both lower than 1%, cover of grass species and dwarf shrubs is lower than 20%, cover of bracken, native trees and shrubs is lower than 25% ▪ Less than 50% of leaves of forbs and shoots of dwarf shrubs are damaged ▪ At each monitoring stops, number of positive indicators species is at least one

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Less than 10% of ground is disturbed by human or animals activities ▪ Rare, threatened or scarce species associated with the habitat are not in decline To restore the favourable conservation condition of Calcareous rocky slopes with chasmophytic vegetation in Wicklow Mountains SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Soil nutrients are maintained ▪ At each monitoring stop, number of Saxifraga and ferns indicators is at least one, number of positive indicator species is at least three ▪ Cover of non-native species is lower than 1%, cover of bracken and native trees and shrubs is lower than 25% ▪ Less than 50% of leaves of forbs and shoots of dwarf shrubs are damaged ▪ Rare, threatened or scarce species associated with the habitat are not in decline To restore the favourable conservation condition of Siliceous rocky slopes with chasmophytic vegetation in Wicklow Mountains SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Soil nutrients are maintained ▪ At each monitoring stop, number of positive indicator species is at least three ▪ Cover of non-native species is lower than 1%, cover of bracken and native trees and shrubs is lower than 25% ▪ Less than 50% of leaves of forbs and shoots of dwarf shrubs are damaged ▪ Rare, threatened or scarce species associated with the habitat are not in decline To restore the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles in Wicklow Mountains SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increased and subjected to natural processes ▪ Habitat distribution does not decline ▪ Woodland area is maintained or increased ▪ Woodland diverse structure has a relatively closed canopy containing mature trees, subcanopy layer with semi-mature trees and shrubs and well-developed herb layer ▪ Woodland structure (community diversity, extent) is maintained ▪ Natural regeneration of woodland occurs in adequate proportions ▪ At least 30m^3/ha of fallen timber is greater than 10cm diameter; there are 30 snags/ha; both categories include stems greater than 40cm diameter ▪ Veteran trees, indicator of local distinctiveness, native tree cover do not decline

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Typical species diversity is maintained ▪ Negative indicator species are absent or under control To maintain the favourable conservation condition of Otter in Wicklow Mountains SAC, which is defined by the following list of attributes and targets: ▪ Species distribution does not decline ▪ Terrestrial, freshwater (lakes and rivers) habitats supporting the species do not decline ▪ Couching sites and holts do not decline ▪ Prey (fish) biomass does not decline ▪ Barriers connectivity does not increase
Lambay Island SAC (000204) 21.8km north east direct distance and 23.2km hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Reefs [1170] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Harbour Porpoise (*Phocoena phocoena*) [1351] Grey Seal (*Halichoerus grypus*) [1364] Harbour Seal (*Phoca vitulina*) [1365]	To maintain the favourable conservation condition of Reefs in Lambay Island SAC, which is defined by the same conservation objectives listed for Rockabil to Dalkey Island SAC. To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Bray Head SAC, which is defined by the by the same conservation objectives listed for Bray Head SAC. No site-specific conservation objectives were present for *Phocoena phocoena* (Harbour Porpoise) [1351] for Lambay Island SAC. Conservation objectives listed for Rockabill to Dalkey Island SAC (003000) can be used as proxy. To maintain the favourable conservation condition of Grey Seal and Harbour Seal in Lambay Island SAC, which is defined by the following list of attributes and targets:
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked habitat is present within the ZoI for temporary habitat loss and mortality.**		
	200m from project (Habitat degradation – changes in air quality)	No, the site and functionally linked habitat are outside the ZoI for habitat degradation -changes in air quality and therefore there is no pathway to an effect.		
	500m from project (Disturbance of species)	**Yes, functionally linked habitat is present within the ZoI for disturbance.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked habitat is present within the ZoI for habitat degradation – changes in water quality.**		▪ The access to suitable habitat is not restricted ▪ Breeding sites are maintained ▪ Moult haul-out sites are maintained ▪ Resting haul-out sites are maintained ▪ Disturbance correlated to human activities occur at levels that do not affect the species To maintain the favourable conservation condition of Harbour Seal in Lambay Island SAC, which is defined by the following list of attributes and targets: ▪ The access to suitable habitat is not restricted ▪ Breeding sites are maintained ▪ Moult haul-out sites are maintained ▪ Resting haul-out sites are maintained ▪ Disturbance correlated to human activities occur at levels that do not affect the species
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked habitat is within the surface water catchment**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No, the site and functionally linked habitat are outside the groundwater catchment and therefore there is no pathway to an effect.		
Codling Fault Zone SAC (003015) 28.5km north east direct distance and hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Submarine structures made by leaking gases [1180] Harbour Porpoise (*Phocoena phocoena*) [1351]	To maintain the favourable conservation condition of Submarine structures made by leaking gases in Codling Fault Zone SAC, which is defined by the following list of attributes and targets: ▪ Habitat area is stable or increasing ▪ Habitat distribution is stable or increasing ▪ Structural integrity of the MDAC features is maintained
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked habitat is present within the ZoI for temporary habitat loss and mortality.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	200m from project (Habitat degradation – changes in air quality)	No, the site and functionally linked habitat are outside the ZoI for habitat degradation -changes in air quality and therefore there is no pathway to an effect.		▪ The Codling Fault Zone MDACs community complex is conserved in natural conditions No site-specific conservation objectives were present for *Phocoena phocoena* (Harbour Porpoise) [1351] for Codling Fault Zone SAC (003015). Conservation objectives listed for Rockabill to Dalkey Island SAC (003000) can be used as proxy.
	500m from project (Disturbance of species)	**Yes, functionally linked habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked habitat is present within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	No, the site and functionally linked habitat are outside the surface water catchment and therefore there is no pathway to an effect.		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No, the site and functionally linked habitat are outside the groundwater catchment and therefore there is no pathway to an effect.		
Special Protection Areas				
South Dublin Bay and River Tolka Estuary SPA (004024) 0m. Within Licence Area A	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Light-bellied Brent goose (*Branta bernicla hrota*) [A046] Oystercatcher (*Haematopus ostralegus*) [A130]	To maintain the favourable conservation condition of Light-bellied Brent Goose in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat	**Yes, the SPA is present within the temporary footprint of the Survey Works**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	degradation – spread of invasive species)		Ringed plover (*Charadrius hiaticula*) [A137] Grey plover (*Pluvialis squatarola*) [A141] Knot (Calidris canutus) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149] Bar-tailed godwit *(Limosa lapponica*) [A157] Redshank *(Tringa totanus*) [A162] Black-headed gull (Chroicocephalus ridibundus) [A179] Roseate tern (*Sterna dougallii*) [A192] Common tern (*Sterna hirundo*) [A193] Arctic tern (*Sterna paradisaea*) [A194] Wetland and Waterbirds [A999]	To maintain the favourable conservation condition of oystercatcher in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of species is maintained To maintain the favourable conservation condition of ringed plover in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of grey plover in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of knot in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of sanderling in South Dublin Bay and River Tolka Estuary SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased
	200m from project (Habitat degradation – changes in air quality)	**Yes, the SPA is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, the SPA is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, the SPA is within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, the SPA is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No, groundwater is absent from the SPA.		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ The distribution of the species is maintained To maintain the favourable conservation condition of dunlin in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of bar-tailed godwit in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of redshank in South Dublin Bay and River Tolka Estuary SPA, by ensuring: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of black-headed gull in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of roseate tern in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Individual number is maintained or increased

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Distribution of roosting area does not decline ▪ Prey biomass does not decline ▪ Barriers to connectivity do not increase ▪ Disturbance level occur at level that do not affect the number of roosting sites To maintain the favourable conservation condition of common tern in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Individual number is maintained or increased ▪ Breeding population abundance does not decline ▪ Mean number of young per breeding pair does not decline ▪ Distribution of breeding colonies and roosting area do not decline ▪ Prey biomass does not decline ▪ Barriers to connectivity do not increase ▪ Disturbance level occur at level that do not affect the number of roosting and breeding sites To maintain the favourable conservation condition of Arctic tern in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets: ▪ Individual number is maintained or increased ▪ Distribution of and roosting areas do not decline ▪ Prey biomass does not decline ▪ Barriers to connectivity do not increase

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Disturbance level occur at level that do not affect the number of roosting sites To maintain the favourable conservation condition of the wetland habitat in South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise it, which is defined by the following list of attributes and targets: Wetland habitat area is maintained and is not less than 2,192 ha
The Murrough SPA (004186) 0m. Within Licence Area D	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Red-throated diver (*Gavia stellata*) [A001] Greylag goose (*Anser anser*) [A043] Light-bellied brent goose (*Branta bernicla hrota*) [A046] Wigeon (Mareca *penelope*) [A050] Teal (*Anas crecca*) [A052] Black-headed gull (*Chroicocephalus ridibundus*) [A179] Herring gull (*Larus argentatus*) [A184] Little tern (*Sterna albifrons*) [A195]	No site-specific conservation objectives were present for Red-throated diver (*Gavia stellata*) [A001] for The Murrough SPA (004186). Conservation objectives listed for North-west Irish Sea SPA [004236] can be used as proxy No site-specific conservation objectives were present for Greylag goose (Anser anser) [A043] for The Murrough SPA (004186). Conservation objectives listed for Rogerstown Estuary SPA [004015] can be used as proxy No site-specific conservation objectives were present for Light-bellied brent goose (Branta bernicla hrota) [A046] for The Murrough SPA (004186). Conservation objectives listed for South Dublin Bay and River Tolka Estuary SPA (004024) can be used as proxy No site-specific conservation objectives were present for Teal (*Anas crecca*) [A052] for The Murrough SPA (004186).
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, the SPA is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, the SPA is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, the SPA is present within the ZoI for disturbance.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	1km from project (Habitat degradation – changes in water quality)	**Yes, the SPA is within the ZoI for habitat degradation – changes in water quality.**	Wetland and Waterbirds [A999]	Conservation objectives listed for North Bull Island SPA [004006] can be used as proxy No site-specific conservation objectives were present for Black-headed gull (*Chroicocephalus ridibundus*) [A179] for The Murrough SPA (004186). Conservation objectives listed for South Dublin Bay and River Tolka Estuary SPA (004024) can be used as proxy No site-specific conservation objectives were present for Herring gull (*Larus argentatus*) [A184] for The Murrough SPA (004186). Conservation objectives listed for North-west Irish Sea SPA [004236] can be used as proxy No site-specific conservation objectives were present for Little tern (Sterna albifrons) [A195] for The Murrough SPA (004186). Conservation objectives listed for tern species at Rockabill SPA can be used as proxy No site-specific conservation objectives were present for Wetland and Waterbirds [A999] for The Murrough SPA (004186). Conservation objectives listed for South Dublin Bay and River Tolka Estuary SPA can be used as proxy
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, the SPA is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, the SPA is present within the groundwater catchment**		
Dalkey Islands SPA (004172) – located 0.5km north east both direct distance and hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Roseate tern (*Sterna dougallii*) [A192] Common tern (*Sterna hirundo*) [A193] Arctic tern (*Sterna paradisaea*) [A194]	No site-specific conservation objectives were present for Roseate tern (*Sterna dougallii*) [A192] for Dalkey Islands SPA (004172). Conservation objectives listed for Rockabill SPA can be used as proxy. No site-specific conservation objectives were present for Common tern (*Sterna hirundo*) [A193] for Dalkey Islands
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	degradation – spread of invasive species)			SPA (004172). Coservation objectives listed for Rockabill SPA can be used as proxy. No site-specific conservation objectives were present for Arctic tern (Sterna paradisaea) [A194] for Rockabill SPA (004172),. Conservation objectives listed for South Dublin Bay and River Tolka Estuary SPA can be used as proxy.
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, the SPA is within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No. Functionally linked habitat is not present within the groundwater catchment, therefore there is no pathway to an effect.		
Wicklow Head SPA (004127)	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Kittiwake (*Rissa tridactyla*) [A188]	No site-specific conservation objectives, other than the general ones are present for this Special Protection Area: to maintain or restore the favourable conservation condition of

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
2.5km south east both direct distance and hydrological distance	**Temporary footprint** (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked habitat is present within the temporary footprint of the Survey Works**		the bird species listed as Special Conservation Interests for this SPA
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked habitat is within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No. Functionally linked habitat is not present within the groundwater catchment, therefore there is no pathway to an effect.		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
North Bull Island SPA (004006) 4.8km north east both direct distance and hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Spatula clypeata*) [A056] Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156]	To maintain the favourable conservation condition of Light-bellied Brent Goose in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of shelduck in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of teal in North Bull Island SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of pintail in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supporting habitat is within the ZoI for habitat degradation – changes in water quality.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**	Bar-tailed Godwit (*Limosa lapponica*) [A157] Curlew (*Numenius arquata*) [A160] Redshank (*Tringa totanus*) [A162] Turnstone (*Arenaria interpres*) [A169] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Wetland and Waterbirds [A999]	To maintain the favourable conservation condition of shoveler in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of oystercatcher in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of golden plover in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of grey plover in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of knot in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No, groundwater is absent from the SPA or functionally linked habitat.		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				To maintain the favourable conservation condition of sanderling in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of dunlin in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of black-tailed godwit in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of bar-tailed godwit in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of curlew in North Bull Island SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				To maintain the favourable conservation condition of redshank in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of turnstone in North Bull Island SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of black-headed gull in North Bull Island SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of the wetland habitat in North Bull Island SPA as a resource for the regularly occurring migratory waterbirds that utilise it, which is defined by the following list of attributes and targets: The permanent area occupied by the wetland habitat is stable and not less than 1,713 ha
North-West Irish Sea SPA (004236)	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Red-throated Diver (*Gavia stellata*) [A001]	To maintain the favourable conservation condition of red-throated diver at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Non-breeding population size does not decline

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
4.8km north east both direct distance and hydrological distance	**Temporary footprint** (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**	Great Northern Diver (*Gavia immer*) [A003] Fulmar (*Fulmarus glacialis*) [A009] Manx Shearwater (*Puffinus puffinus*) [A013] Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Common Scoter (*Melanitta nigra*) [A065] Little Gull (*Larus minutus*) [A177] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182] Lesser Black-backed Gull (*Larus fuscus*) [A183] Herring Gull (*Larus argentatus*) [A184] Great Black-backed Gull (*Larus marinus*) [A187] Kittiwake (*Rissa tridactyla*) [A188]	▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of great-northern diver at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Non-breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of fulmar at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Population size does not decline
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supportive habitat is within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No, groundwater is absent from the SPA or functionally linked habitat		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
			Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Little Tern (*Sterna albifrons*) [A195] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204]	▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the specie ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of manx shearwater at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of cormorant at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Breeding population trend is maintained or increased

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of shag at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Breeding population trend is maintained or increased ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of common scoter at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Non-breeding population size does not decline

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of black-headed gull at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Non-breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of common gull at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Non-breeding population size does not decline

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of lesser black-backed gull at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of herring gull at North-west Irish Sea SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of great black-backed gull at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Non-breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of kittiwake at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of roseate tern at North-west Irish Sea SPA which is defined by the following list of attributes and targets: ▪ Breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of common tern at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of Arctic tern at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of little tern at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of guillemot at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of razorbill at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of puffin at North-west Irish Sea SPA, which is defined by the following list of attributes and targets: ▪ Breeding population trend is maintained or increased ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species ▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA To maintain the favourable conservation condition of little gull at North-west Irish Sea SPA which is defined by the following list of attributes and targets: ▪ Non-breeding population size does not decline ▪ Spatial distribution of suitable habitat is maintained sufficient to support the species ▪ Forage spatial distribution and available forage biomass are maintained sufficient to support the species ▪ Disturbance is maintained at levels that do not impact on the species

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Barriers to connectivity is maintained at levels that do not impact on the species' access to the SPA or to other ecologically important sites outside the SPA
Wicklow Mountains SPA (004040) 9.4km west direct distance, 11.8km upstream hydrological connection	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Merlin (*Falco columbarius*) [A098] Peregrine (*Falco peregrinus*) [A103]	No site-specific conservation objectives, other than the general ones are present for this Special Protection Area: to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked habitat is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked habitat is present within the ZoI for habitat degradation – changes in water quality.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, functionally linked habitat is present within the groundwater catchment.**		
Howth Head Coast SPA (004113) 9.9km north east both direct distance and hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Kittiwake (*Rissa tridactyla*) [A188]	No site-specific conservation objectives, other than the general ones are present for this Special Protection Area: to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked habitat is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked habitat is present within the ZoI for disturbance.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked habitat is within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No. Functionally linked habitat is not present within the groundwater catchment, therefore there is no pathway to an effect.		
Baldoyle Bay SPA (004016) 10.3km north direct distance and 17.5km hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Ringed Plover (*Charadrius hiaticula*) [A137] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Bar-tailed Godwit (*Limosa lapponica*) [A157] Wetland and Waterbirds [A999]	To maintain the favourable conservation condition of light-bellied brent goose in Baldoyle Bay SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of shelduck in Baldoyle Bay SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of ringed plover in Baldoyle Bay SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		To maintain the favourable conservation condition of golden plover in Baldoyle Bay SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of grey plover in Baldoyle Bay SPA which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of bar-tailed godwit in Baldoyle Bay SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of the wetland habitat in Baldoyle Bay SPA, which is defined by the following list of attributes and targets: ▪ The permanent area occupied by the wetland habitat is maintained and it is not less than the area of 263ha,
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, functionally linked and supporting habitat is present within the groundwater catchment.**		
Irelands Eye SPA (004117) 13.1km north east direct distance and 14.2km hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Cormorant (*Phalacrocorax carbo*) [A017] Herring Gull (*Larus argentatus*) [A184] Kittiwake (*Rissa tridactyla*) [A188]	No site-specific conservation objectives, other than the general ones are present for this Special Protection Area: to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	land quality, Habitat degradation – spread of invasive species)		Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200]	
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, functionally linked and supporting habitat is present within the groundwater catchment.**		
Malahide Estuary SPA (004025)	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Great Crested Grebe (*Podiceps cristatus*) [A005]	

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
14.9km north direct distance and 20.7km hydrological distance	**Temporary footprint** (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Pintail (*Anas acuta*) [A054] Goldeneye (*Bucephala clangula*) [A067] Red-breasted Merganser (*Mergus serrator*) [A069] Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Redshank (*Tringa totanus*) [A162]	To maintain the favourable conservation condition of great crested grebe in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of Brent goose in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of shelduck in Malahide Estuary SPA, by ensuring: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of pintail in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of goldeneye in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, functionally linked and supporting habitat is present within the groundwater catchment.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
			Wetland and Waterbirds [A999]	To maintain the favourable conservation condition of red-breasted merganser in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of oystercatcher in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of golden plover in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of grey plover in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				To maintain the favourable conservation condition of knot in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of dunlin in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of black-tailed godwit in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of bar-tailed godwit in Malahide Estuary SPA, which is defined by the following list of attributes and targets: ▪ Population trend is mantained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of redshank in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Population trend is maintained or increased ▪ The distribution of the species is maintained To maintain the favourable conservation condition of the wetland habitat in Malahide Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise it which is defined by the following list of attributes and targets: The permanent area occupied by the wetland habitat is stable and not significantly less than the area of 765 hectares
Rogerstown Estuary SPA (004015) 20.5km north direct distance and 24.7km hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Greylag Goose (*Anser anser*) [A043] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Shoveler (*Spatula clypeata*) [A056] Oystercatcher (Haematopus ostralegus) [A130] Ringed Plover (*Charadrius hiaticula*) [A137] Grey Plover (*Pluvialis squatarola*) [A141]	To maintain the favourable conservation condition of Greylag Goose (*Anser anser*) in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Shelduck (*Tadorna tadorna*) [A048] in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**	Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Redshank (*Tringa totanus*) [A162] Wetland and Waterbirds [A999]	▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Shoveler (*Spatula clypeata*) [A056]in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Oystercatcher (*Haematopus ostralegus*) [A130] in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Ringed Plover (*Charadrius hiaticula*) [A137] in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Grey Plover (*Pluvialis squatarola)* [A141] in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Knot (*Calidris canutus*) [A143] in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, functionally linked and supporting habitat is present within the groundwater catchment.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
				▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Dunlin (*Calidris alpina*) [A149] in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Black-tailed Godwit (*Limosa limosa*) [A156]in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Redshank (*Tringa totanus*) [A162] in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Wetland and Waterbirds [A999] in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets: ▪ The permanent area occupied by the wetland habitat is stable and not significantly less than the area of 646 hectares

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
Lambay Island SPA (004069) 21.8km north east direct distance and 23.2km hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Fulmar (*Fulmarus glacialis*) [A009] Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Greylag Goose (*Anser* anser) [A043] Lesser Black-backed Gull (*Larus fuscus*) [A183] Herring Gull (*Larus argentatus*) [A184] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204]	No site-specific conservation objectives, other than the general ones are present for this Special Protection Area: to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. No site-specific conservation objectives were present for Greylag Goose (*Anser anser*) for Lambay Island SPA (004069). Conservation objectives listed in Rogerstown Estuary SPA can be used as proxy.
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, functionally linked and supporting habitat is present within the groundwater catchment.**		
Skerries Islands SPA (004122) 29.2km north direct distance and 24.7km hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Purple Sandpiper (*Calidris maritima*) [A148] Turnstone (*Arenaria interpres*) [A169] Herring Gull (*Larus argentatus*) [A184]	No site-specific conservation objectives, other than the general ones are present for this Special Protection Area: to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. No site-specific conservation objectives were present for Light-bellied Brent Goose (*Branta bernicla hrota*) for Skerries Islands SPA (004122). Conservation objectives listed in South Dublin Bay and River Tolka Estuary SPA can be used as proxy. No site-specific conservation objectives were present for Purple Sandpiper (Calidris maritima) for Skerries Islands SPA (004122). Conservation objectives listed in Rockabill SPA can be used as proxy. No site-specific conservation objectives were present for Turnstone (*Arenaria interpres*) for Skerries Islands SPA (004122). Conservation objectives listed in North Bull Island SPA can be used as proxy.
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in water quality.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, functionally linked and supporting habitat is present within the groundwater catchment.**		
Rockabill SPA (004014) 29.7km north west direct distance and 33.2km hydrological distance	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Purple Sandpiper (*Calidris maritima*) [A148] Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194]	To maintain the favourable conservation condition of Purple Sandpiper in Rockabill SPA, which is defined by the following list of attributes and targets: ▪ Long term population trend is maintained or increased ▪ The distribution of the species does not decrease To maintain the favourable conservation condition of Roseate Tern in Rockabill SPA, which is defined by the following list of attributes and targets: ▪ Breeding population is not declining ▪ Fledged young per breeding pair are not declining ▪ Breeding colonies is not declining ▪ Prey availability is not declining ▪ Barriers to connectivity are not increasing ▪ Disturbance correlated to human activities occur at levels that do not affect the breeding population
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in land quality, Habitat degradation – spread of invasive species)	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**		
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in water quality.**		To maintain the favourable conservation condition of Common Tern in Rockabill SPA, which is defined by the following list of attributes and targets: ▪ Breeding population is not declining ▪ Fledged young per breeding pair are not declining ▪ Breeding colonies is not declining ▪ Prey availability is not declining ▪ Barriers to connectivity are not increasing ▪ Disturbance correlated to human activities occur at levels that do not affect the breeding population To maintain the favourable conservation condition of Arctic Tern in Rockabill SPA, which is defined by the following list of attributes and targets: ▪ Breeding population is not declining ▪ Fledged young per breeding pair are not declining ▪ Breeding colonies is not declining ▪ Prey availability is not declining ▪ Barriers to connectivity are not increasing ▪ Disturbance correlated to human activities occur at levels that do not affect the breeding population
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	No, functionally linked and supporting habitat is not present within the groundwater catchment.		
Poulaphouca Reservoir SPA (004063) 23.9km south west direct distance, no hydrological connection	**Permanent footprint** (Habitat loss – permanent)	N/A. No permanent works are being undertaken at this stage of the Survey Works	Greylag Goose (*Anser anser*) [A043] Lesser black-backed gull (*Larus fuscus*) [A183]	No site-specific conservation objectives were present for Poulaphouca Reservoir SPA Greylag Goose (Anser anser) for SPA (004069). Conservation objectives listed in Rogerstown Estuary SPA can be used as proxy.
	Temporary footprint (Habitat loss – temporary; Mortality, Habitat degredation – changes in	**Yes, functionally linked and supporting habitat is present within the temporary footprint of the Survey Works**		

Potentially relevant European sites considered in the assessment	ZoIs that overlap the site or supporting / functionally linked land associated with it	Potential for LSEs?	QIs	Conservation objectives
	land quality, Habitat degradation – spread of invasive species)			No site-specific conservation objectives were present for Lesser Black-backed Gull (*Larus fuscus*) for Poulaphouca Reservoir SPA. Conservation objectives listed in North-west Irish Sea SPA can be used as proxy.
	200m from project (Habitat degradation – changes in air quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in air quality, however given the nature of the works any effects are inconsequential and therefore there is no pathway to an effect.**		
	300m from project (Disturbance of species)	**Yes, functionally linked and supporting habitat is present within the ZoI for disturbance.**		
	1km from project (Habitat degradation – changes in water quality)	**Yes, functionally linked and supporting habitat is present within the ZoI for habitat degradation – changes in water quality.**		
	Surface water catchment connectivity (Habitat degradation – hydrological changes	**Yes, functionally linked and supporting habitat is present within the surface water catchment.**		
	Groundwater catchment connectivity (Habitat degradation – hydrogeological changes)	**Yes, functionally linked and supporting habitat is present within the groundwater catchment.**		

5. Assessment of Likely Significant Effects (LSEs)

5.1 Assessment of LSEs Alone

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
Special Areas of Conservation				
South Dublin Bay SAC (000210) 0m. Within Licence Area A	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] *Salicornia* and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	Habitat loss - permanent	Survey Works being undertaken will not result in any permanent impacts, therefore there is no pathway to an effect.	No – No effects at all
		Habitat loss - temporary	**There will be temporary habitat loss from the GI works in Licence Area A.**	**Yes – LSE cannot be excluded**
		Habitat degradation – changes in water quality	The SAC is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SAC is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SAC is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works any effects are inconsequential and therefore there is no pathway to an effect.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SAC is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – hydrogeological changes	The SAC is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works, no effect is expected.	No – No effects at all
		Disturbance of species	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Bray Head SAC (000714) 0m. Within Licence Area B	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – changes in water quality	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – changes in land quality	The Survey Works in this area are within the intertidal zone and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – changes in air quality	The SAC is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation –	The Survey Works in this area are within the intertidal zone and	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		hydrological changes	Irish Sea and therefore there is no pathway to an effect on the designated habitats	
		Habitat degradation – hydrogeological changes	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats.	No – No effects at all
		Disturbance of species	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
The Murrough Wetlands SAC (002249) 0m. Within Licence Area D	Annual vegetation of drift lines [1210] Perennial vegetation of stony banks [1220] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Calcareous fens with *Cladium* mariscus and species of the *Caricion davallianae* [7210] Alkaline fens [7230]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	No temporary habitat loss will occur in this area of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat degradation – changes in water quality	The SAC is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the nature of the Survey Works in this Licence Area no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SAC is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation –	The SAC is within the ZoI for habitat degradation from changes in air quality. There is	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		changes in air quality	the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – hydrological changes	The SAC is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SAC is present within the groundwater catchment and calcareous fens with *Cladium* mariscus and species of the *Caricion davallianae* [7210] and alkaline fens [7230] are characterised as groundwater dependent habitats. However, the Survey Works in this area will not impact on the groundwater levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Rockabill to Dalkey Island SAC (003000) 4km east direct distance and 4.5km east hydrological distance	Harbour Porpoise (*Phocoena phocoena*) [1351] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SAC.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The SAC and functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	The SAC and functionally linked habitat is outside the ZoI for hydrological changes and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SAC and functionally linked habitat is outside the ZoI for hydrogeological changes and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the bathymetric surveys.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
Wicklow Mountains SAC (002122) 8.9km west direct distance, 11.8km upstream hydrological connection	Otter (*Lutra lutra*) [1355] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SAC.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site through run-off, connected watercourses or within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	Functionally linked habitat is present within the surface water catchment, however there will be no impact on surface water levels as part of the Survey Works and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats used by the QI species are not dependent on groundwater levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	Functionally linked habitat is within the ZoI for disturbance	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			and there is potential for disturbance to QI species during the Survey Works. However, given the nature and location of the Survey Works within marine habitats, distance and abundance of suitable habitat closer to the SAC, impacts from disturbance are not anticipated to be significant.	
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Lambay Island SAC (000204) 21.8km north east direct distance and 23.2km hydrological distance	Harbour Porpoise (*Phocoena phocoena*) [1351] Grey Seal (*Halichoerus grypus*) [1364]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
	Harbour Seal (*Phoca vitulina*) [1365 These QIs are singled out as the conservation objectives for these QIs are different from the other QIs for this SAC	Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The SAC and functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – hydrological changes	The SAC and functionally linked habitat is outside the ZoI for hydrological changes and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SAC and functionally linked habitat is outside the ZoI for hydrogeological changes and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the bathymetric surveys and ecology boat surveys.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Codling Fault Zone SAC (003015) 28.5km north east direct distance and hydrological distance	Harbour Porpoise (*Phocoena phocoena*) [1351] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SAC.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The SAC and functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	The SAC and functionally linked habitat is outside the ZoI for hydrological changes and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SAC and functionally linked habitat is outside the ZoI for hydrogeological changes and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the bathymetric surveys.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Special Protection Areas				
South Dublin Bay and River Tolka	Light-bellied Brent goose (*Branta*	Habitat loss - permanent	No permanent works are being undertaken at this stage of the	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
Estuary SPA (004024) 0m. Within Survey Works	*bernicla hrota*) [A046] Oystercatcher (*Haematopus ostralegus*) [A130] Ringed plover (*Charadrius hiaticula*) [A137] Grey plover (*Pluvialis squatarola*) [A141] Knot (Calidris canutus) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149] Bar-tailed godwit *(Limosa lapponica*) [A157] Redshank *(Tringa totanus*) [A162] Black-headed gull (Chroicocephalus ridibundus) [A179] Roseate tern (*Sterna dougallii*) [A192] Common tern (*Sterna hirundo*) [A193] Arctic tern (*Sterna paradisaea*) [A194]		Survey Works, therefore there is no pathway to an effect	
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in water quality	The SPA is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site through run-off or within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SPA is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SPA and functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –	The SPA and functionally linked habitat is within the ZoI for	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		spread of invasive species	habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	
		Disturbance of species	**The SPA and functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	The SPA and functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in water quality	The SPA is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site through run-off or within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SPA is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in air quality	The SPA is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
The Murrough SPA (004186) 0m. Within Survey Works	Red-throated diver (*Gavia stellata*) [A001] Greylag goose (*Anser anser*) [A043] Light-bellied brent goose (*Branta bernicla hrota*) [A046] Wigeon (Mareca *penelope*) [A050]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation –	Functionally linked and supporting habitats are within the ZoI for habitat degradation	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Teal (*Anas crecca*) [A052] Black-headed gull (*Chroicocephalus ridibundus*) [A179] Herring gull (*Larus argentatus*) [A184] Little tern (*Sterna albifrons*) [A195]	changes in water quality	from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the SPA or functionally linked habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SPA and functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA and functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Disturbance of species	**The SPA and functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	The SPA and functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the SPA or functionally linked habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation –	The SPA is within the ZoI for habitat degradation from changes in air quality. There is	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		changes in air quality	the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Dalkey Islands SPA (004172) – located 0.5km north east both direct distance and hydrological distance	Roseate tern (*Sterna dougallii*) [A192] Common tern (*Sterna hirundo*) [A193] Arctic tern (*Sterna paradisaea*) [A194]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI**	**Yes – LSE cannot be excluded**

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			species during the Survey Works.	
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Wicklow Head SPA (004127) 2.5km south east both direct distance and hydrological distance	Kittiwake (*Rissa tridactyla*) [A188]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – hydrological changes	Functionally linked habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
North Bull Island SPA (004006) 4.8km north east both direct distance and hydrological distance	Light-bellied Brent Goose (Branta bernicla hrota) [A046] Shelduck (Tadorna tadorna) [A048] Teal (Anas crecca) [A052]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Pintail (Anas acuta) [A054] Shoveler (Spatula clypeata) [A056] Oystercatcher (Haematopus ostralegus) [A130] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Knot (Calidris canutus) [A143] Sanderling (Calidris alba) [A144] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Turnstone (Arenaria interpres) [A169] Black-headed Gull (Chroicocephalus ridibundus) [A179]	Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation –	Functionally linked and supporting habitat is within the	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		changes in land quality	ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
North-West Irish Sea SPA (004236) 4.8km north east both direct distance and hydrological distance	Red-throated Diver (*Gavia stellata*) [A001] Great Northern Diver (*Gavia immer*) [A003] Fulmar (*Fulmarus glacialis*) [A009] Manx Shearwater (*Puffinus puffinus*) [A013] Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Common Scoter (*Melanitta nigra*) [A065] Little Gull (*Larus minutus*) [A177] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182] Lesser Black-backed Gull (*Larus fuscus*) [A183] Herring Gull (*Larus argentatus*) [A184] Great Black-backed Gull (*Larus marinus*) [A187] Kittiwake (*Rissa tridactyla*) [A188] Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Little Tern (*Sterna albifrons*) [A195] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Puffin (*Fratercula arctica*) [A204]	Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Wicklow Mountains SPA (004040) 9.4km west direct distance, 11.8km upstream hydrological connection	Merlin (*Falco columbarius*) [A098] Peregrine (*Falco peregrinus*) [A103]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	No functionally linked habitat is within the ZoI for habitat loss, therefore there is no pathway to an effect	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No – No effects at all
		Habitat degradation – hydrological changes	Functionally linked habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
Howth Head Coast SPA (004113) 9.9km north east both direct distance and hydrological distance	Kittiwake (*Rissa tridactyla*) [A188]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – hydrological changes	Functionally linked habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Baldoyle Bay SPA (004016) 10.3km north direct distance and 17.5km hydrological distance	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Ringed Plover (*Charadrius hiaticula*) [A137] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Bar-tailed Godwit (*Limosa lapponica*) [A157]		the Survey Works no significant effect is expected.	
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –	Functionally linked and supporting habitat is within the	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		spread of invasive species	ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
Irelands Eye SPA (004117) 13.1km north east direct distance and 14.2km hydrological distance	Cormorant (*Phalacrocorax carbo*) [A017] Herring Gull (*Larus argentatus*) [A184] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –	Functionally linked and supporting habitat is present within the groundwater	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		hydrogeological changes	catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Malahide Estuary SPA (004025) 14.9km north direct distance and 20.7km hydrological distance	Great Crested Grebe (*Podiceps cristatus*) [A005] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Pintail (*Anas acuta*) [A054] Goldeneye (*Bucephala clangula*) [A067]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Red-breasted Merganser (*Mergus serrator*) [A069] Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Redshank (*Tringa totanus*) [A162]		Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			Works no significant effect is expected.	
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Rogerstown Estuary SPA (004015) 20.5km north direct distance and 24.7km hydrological distance	Greylag Goose (*Anser anser*) [A043] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Shelduck (*Tadorna tadorna*) [A048]		the Survey Works no significant effect is expected.	
	Shoveler (*Spatula clypeata*) [A056] Oystercatcher (Haematopus ostralegus) [A130] Ringed Plover (*Charadrius hiaticula*) [A137] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Redshank (*Tringa totanus*) [A162]	Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –	Functionally linked and supporting habitat is within the	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		spread of invasive species	ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
Lambay Island SPA (004069) 21.8km north east direct distance and 23.2km hydrological distance	Fulmar (*Fulmarus glacialis*) [A009] Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Greylag Goose (*Anser* anser) [A043] Lesser Black-backed Gull (*Larus fuscus*) [A183] Herring Gull (*Larus argentatus*) [A184] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Skerries Islands SPA (004122) 29.2km north direct distance and 24.7km hydrological distance	Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Purple Sandpiper (*Calidris maritima*) [A148]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation –	Functionally linked and supporting habitat is within the ZoI for habitat degradation from	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Turnstone (*Arenaria interpres*) [A169] Herring Gull (*Larus argentatus*) [A184]	changes in water quality	changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Rockabill SPA (004014) 29.7km north west direct distance and 33.2km hydrological distance	Purple Sandpiper (*Calidris maritima*) [A148] Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			Works no significant effect is expected.	
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	
Poulaphouca Reservoir SPA (004063) 23.9km south west direct distance, no hydrological connection	Greylag Goose (*Anser anser*) [A043] Lesser black-backed gull (*Larus fuscus*) [A183]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			are not dependent on surface water levels and therefore there is no pathway to an effect.	
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant

Table 5.1 reports the assessment of LSEs on the QIs of the relevant European Sites.

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
Special Areas of Conservation				
South Dublin Bay SAC (000210) 0m. Within Licence Area A	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] *Salicornia* and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	Habitat loss - permanent	Survey Works being undertaken will not result in any permanent impacts, therefore there is no pathway to an effect.	No – No effects at all
		Habitat loss - temporary	**There will be temporary habitat loss from the GI works in Licence Area A.**	**Yes – LSE cannot be excluded**
		Habitat degradation – changes in water quality	The SAC is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SAC is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SAC is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works any effects are inconsequential and therefore there is no pathway to an effect.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SAC is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	The SAC is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works, no effect is expected.	No – No effects at all
		Disturbance of species	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Mortality	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Bray Head SAC (000714) 0m. Within Licence Area B	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – changes in water quality	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – changes in land quality	The Survey Works in this area are within the intertidal zone and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – changes in air quality	The SAC is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation –hydrogeological changes	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats.	No – No effects at all
		Disturbance of species	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
The Murrough Wetlands SAC (002249)	Annual vegetation of drift lines [1210]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
0m. Within Licence Area D	Perennial vegetation of stony banks [1220] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Calcareous fens with *Cladium* mariscus and species of the *Caricion davallianae* [7210] Alkaline fens [7230]	Habitat loss - temporary	No temporary habitat loss will occur in this area of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat degradation – changes in water quality	The SAC is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the nature of the Survey Works in this Licence Area no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SAC is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SAC is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SAC is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	The SAC is present within the groundwater catchment and calcareous fens with *Cladium* mariscus and species of the *Caricion davallianae* [7210] and alkaline fens [7230] are characterised as groundwater dependent habitats. However, the Survey Works in this area will not impact on the groundwater levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
Rockabill to Dalkey Island SAC (003000) 4km east direct distance and 4.5km east hydrological distance	Harbour Porpoise (*Phocoena phocoena*) [1351] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SAC.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The SAC and functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	The SAC and functionally linked habitat is outside the ZoI for hydrological changes and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	The SAC and functionally linked habitat is outside the ZoI for hydrogeological changes and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the bathymetric surveys.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			Works and base level of boat traffic within the area no significant effect is expected.	
Wicklow Mountains SAC (002122) 8.9km west direct distance, 11.8km upstream hydrological connection	Otter (*Lutra lutra*) [1355] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SAC.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site through run-off, connected watercourses or within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	Functionally linked habitat is present within the surface water catchment, however there will be no impact on surface water levels as part of the Survey Works and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats used by the QI species are not dependent on groundwater levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the nature and location of the Survey Works within marine habitats,	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			distance and abundance of suitable habitat closer to the SAC, impacts from disturbance are not anticipated to be significant.	
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Lambay Island SAC (000204) 21.8km north east direct distance and 23.2km hydrological distance	Harbour Porpoise (*Phocoena phocoena*) [1351] Grey Seal (*Halichoerus grypus*) [1364] Harbour Seal (*Phoca vitulina*) [1365 These QIs are singled out as the conservation objectives for these QIs are different from the other QIs for this SAC	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The SAC and functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	The SAC and functionally linked habitat is outside the ZoI for hydrological changes and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	The SAC and functionally linked habitat is outside the ZoI for hydrogeological changes and therefore there is no pathway to an effect on the designated habitats	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the bathymetric surveys and ecology boat surveys.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Codling Fault Zone SAC (003015) 28.5km north east direct distance and hydrological distance	Harbour Porpoise (*Phocoena phocoena*) [1351] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SAC.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The SAC and functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	The SAC and functionally linked habitat is outside the ZoI for hydrological changes and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation –hydrogeological changes	The SAC and functionally linked habitat is outside the ZoI for hydrogeological changes and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the bathymetric surveys.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Special Protection Areas				
South Dublin Bay and River Tolka Estuary SPA (004024) 0m. Within Survey Works	Light-bellied Brent goose (*Branta bernicla hrota*) [A046] Oystercatcher (*Haematopus ostralegus*) [A130] Ringed plover (*Charadrius hiaticula*) [A137] Grey plover (*Pluvialis squatarola*) [A141] Knot (Calidris canutus) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in water quality	The SPA is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site through run-off or within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SPA is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Bar-tailed godwit *(Limosa lapponica)* [A157] Redshank *(Tringa totanus)* [A162] Black-headed gull (Chroicocephalus ridibundus) [A179] Roseate tern (*Sterna dougallii*) [A192] Common tern (*Sterna hirundo*) [A193] Arctic tern (*Sterna paradisaea*) [A194]	Habitat degradation – changes in air quality	The SPA and functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA and functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**The SPA and functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	The SPA and functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in water quality	The SPA is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site through run-off or	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	The SPA is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SPA is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
The Murrough SPA (004186) 0m. Within Survey Works	Red-throated diver (*Gavia stellata*) [A001] Greylag goose (*Anser anser*) [A043] Light-bellied brent goose (*Branta bernicla hrota*) [A046] Wigeon (Mareca *penelope*) [A050]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Teal (*Anas crecca*) [A052] Black-headed gull (*Chroicocephalus ridibundus*) [A179] Herring gull (*Larus argentatus*) [A184] Little tern (*Sterna albifrons*) [A195]		water quality within the SPA or functionally linked habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SPA and functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA and functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**The SPA and functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	The SPA and functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the SPA or functionally linked habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SPA is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Dalkey Islands SPA (004172) – located 0.5km north east both direct distance and hydrological distance	Roseate tern (*Sterna dougallii*) [A192] Common tern (*Sterna hirundo*) [A193] Arctic tern (*Sterna paradisaea*) [A194]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Disturbance of species	**Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Wicklow Head SPA (004127) 2.5km south east both direct distance and hydrological distance	Kittiwake (*Rissa tridactyla*) [A188]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation –hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
North Bull Island SPA (004006) 4.8km north east both direct distance and hydrological distance	Light-bellied Brent Goose (Branta bernicla hrota) [A046] Shelduck (Tadorna tadorna) [A048] Teal (Anas crecca) [A052] Pintail (Anas acuta) [A054] Shoveler (Spatula clypeata) [A056]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
	Oystercatcher (Haematopus ostralegus) [A130] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141]	Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
	Knot (Calidris canutus) [A143] Sanderling (Calidris alba) [A144]	Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Turnstone (Arenaria interpres) [A169] Black-headed Gull (Chroicocephalus ridibundus) [A179]		Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
North-West Irish Sea SPA (004236) 4.8km north east both direct distance and hydrological distance	Red-throated Diver (*Gavia stellata*) [A001] Great Northern Diver (*Gavia immer*) [A003] Fulmar (*Fulmarus glacialis*) [A009] Manx Shearwater (*Puffinus puffinus*) [A013] Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Common Scoter (*Melanitta nigra*) [A065] Little Gull (*Larus minutus*) [A177] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182] Lesser Black-backed Gull (*Larus fuscus*) [A183] Herring Gull (*Larus argentatus*) [A184] Great Black-backed Gull (*Larus marinus*) [A187] Kittiwake (*Rissa tridactyla*) [A188] Roseate Tern (*Stema dougallii*) [A192]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Little Tern (*Sterna albifrons*) [A195] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204]	Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Wicklow Mountains SPA (004040) 9.4km west direct distance, 11.8km upstream hydrological connection	Merlin (*Falco columbarius*) [A098] Peregrine (*Falco peregrinus*) [A103]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	No functionally linked habitat is within the ZoI for habitat loss, therefore there is no pathway to an effect	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No – No effects at all
		Habitat degradation – hydrological changes	Functionally linked habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
Howth Head Coast SPA (004113) 9.9km north east both direct distance and hydrological distance	Kittiwake (*Rissa tridactyla*) [A188]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in water quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	
Baldoyle Bay SPA (004016) 10.3km north direct distance and 17.5km hydrological distance	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Ringed Plover (*Charadrius hiaticula*) [A137] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Bar-tailed Godwit (*Limosa lapponica*) [A157]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However,	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Irelands Eye SPA (004117) 13.1km north east direct distance and 14.2km hydrological distance	Cormorant (*Phalacrocorax carbo*) [A017] Herring Gull (*Larus argentatus*) [A184] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Malahide Estuary SPA (004025) 14.9km north direct distance and 20.7km hydrological distance	Great Crested Grebe (*Podiceps cristatus*) [A005] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Shelduck (*Tadorna tadorna*) [A048] Pintail (*Anas acuta*) [A054] Goldeneye (*Bucephala clangula*) [A067] Red-breasted Merganser (*Mergus serrator*) [A069] Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Redshank (*Tringa totanus*) [A162]	Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
	This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Rogerstown Estuary SPA (004015) 20.5km north direct distance and 24.7km hydrological distance	Greylag Goose (*Anser anser*) [A043] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Shoveler (*Spatula clypeata*) [A056] Oystercatcher (Haematopus ostralegus) [A130] Ringed Plover (*Charadrius hiaticula*) [A137] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Redshank (*Tringa totanus*) [A162]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Lambay Island SPA (004069) 21.8km north east direct distance and 23.2km hydrological distance	Fulmar (*Fulmarus glacialis*) [A009] Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Greylag Goose (*Anser* anser) [A043] Lesser Black-backed Gull (*Larus fuscus*) [A183]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Herring Gull (*Larus argentatus*) [A184] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204]	Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Skerries Islands SPA (004122)	Cormorant (*Phalacrocorax carbo*) [A017]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
29.2km north direct distance and 24.7km hydrological distance	Shag (Gulosus aristotelis) [A018] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Purple Sandpiper (*Calidris maritima*) [A148] Turnstone (*Arenaria interpres*) [A169] Herring Gull (*Larus argentatus*) [A184]	Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Rockabill SPA (004014) 29.7km north west direct distance and 33.2km hydrological distance	Purple Sandpiper (*Calidris maritima*) [A148] Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Poulaphouca Reservoir SPA (004063) 23.9km south west direct distance, no hydrological connection	Greylag Goose (*Anser anser*) [A043] Lesser black-backed gull (*Larus fuscus*) [A183]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant

Table 5.1: Assessment of LSEs on the QIs of the relevant European Sites. LSEs that cannot be excluded are shown in bold.

5.1.1 Conclusions of Alone Assessment

An examination of European sites and their QI features within the ZoI of the Survey Works is presented in

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
Special Areas of Conservation				
South Dublin Bay SAC (000210) 0m. Within Licence Area A	Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] *Salicornia* and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	Habitat loss - permanent	Survey Works being undertaken will not result in any permanent impacts, therefore there is no pathway to an effect.	No – No effects at all
		Habitat loss - temporary	**There will be temporary habitat loss from the GI works in Licence Area A.**	**Yes – LSE cannot be excluded**
		Habitat degradation – changes in water quality	The SAC is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SAC is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SAC is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works any effects are inconsequential and therefore there is no pathway to an effect.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SAC is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SAC is present within the groundwater catchment, however the habitats are not dependent on groundwater and	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			therefore there is no pathway to an effect.	
		Habitat degradation – spread of invasive species	The SAC is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works, no effect is expected.	No – No effects at all
		Disturbance of species	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Bray Head SAC (000714) 0m. Within Licence Area B	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] European dry heaths [4030]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – changes in water quality	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – changes in land quality	The Survey Works in this area are within the intertidal zone and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – changes in air quality	The SAC is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – hydrogeological changes	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The Survey Works in this area are within the intertidal zone and Irish Sea and therefore there is no pathway to an effect on the designated habitats.	No – No effects at all
		Disturbance of species	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
The Murrough Wetlands SAC (002249) 0m. Within Licence Area D	Annual vegetation of drift lines [1210] Perennial vegetation of stony banks [1220] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Calcareous fens with *Cladium* mariscus and species of the *Caricion davallianae* [7210] Alkaline fens [7230]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	No temporary habitat loss will occur in this area of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat degradation – changes in water quality	The SAC is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the nature of the Survey Works in this Licence Area no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SAC is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SAC is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			the Survey Works no significant effect is expected.	
		Habitat degradation – hydrological changes	The SAC is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SAC is present within the groundwater catchment and calcareous fens with *Cladium* mariscus and species of the *Caricion davallianae* [7210] and alkaline fens [7230] are characterised as groundwater dependent habitats. However, the Survey Works in this area will not impact on the groundwater levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	The SAC is designated for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Rockabill to Dalkey Island SAC (003000) 4km east direct distance and 4.5km east hydrological distance	Harbour Porpoise (*Phocoena phocoena*) [1351] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SAC.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The SAC and functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	The SAC and functionally linked habitat is outside the ZoI for hydrological changes and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SAC and functionally linked habitat is outside the ZoI for hydrogeological changes and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the bathymetric surveys.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Wicklow Mountains SAC (002122)	Otter (*Lutra lutra*) [1355]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
8.9km west direct distance, 11.8km upstream hydrological connection	This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SAC.	Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site through run-off, connected watercourses or within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	Functionally linked habitat is present within the surface water catchment, however there will be no impact on surface water levels as part of the Survey Works and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats used by the QI species are not dependent on groundwater levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the nature and location of the Survey Works within marine	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			habitats, distance and abundance of suitable habitat closer to the SAC, impacts from disturbance are not anticipated to be significant.	
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Lambay Island SAC (000204) 21.8km north east direct distance and 23.2km hydrological distance	Harbour Porpoise (*Phocoena phocoena*) [1351] Grey Seal (*Halichoerus grypus*) [1364] Harbour Seal (*Phoca vitulina*) [1365 These QIs are singled out as the conservation objectives for these QIs are different from the other QIs for this SAC	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in land quality	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in air quality	The SAC and functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	The SAC and functionally linked habitat is outside the ZoI for hydrological changes and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – hydrogeological changes	The SAC and functionally linked habitat is outside the ZoI for hydrogeological changes and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the bathymetric surveys and ecology boat surveys.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Codling Fault Zone SAC (003015) 28.5km north east direct distance and hydrological distance	Harbour Porpoise (*Phocoena phocoena*) [1351] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SAC.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SAC and functionally linked habitat is outside the ZoI for habitat loss and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation –	The SAC and functionally linked habitat is outside the ZoI for changes in land quality and	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		changes in land quality	therefore there is no pathway to an effect.	
		Habitat degradation – changes in air quality	The SAC and functionally linked habitat is outside the ZoI for changes in air quality and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrological changes	The SAC and functionally linked habitat is outside the ZoI for hydrological changes and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SAC and functionally linked habitat is outside the ZoI for hydrogeological changes and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Habitat degradation – spread of invasive species	The SAC and functionally linked habitat is outside the ZoI for spread of invasive species and therefore there is no pathway to an effect on the designated habitats	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the bathymetric surveys.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for injury / mortality through collision with a boat or through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works and base level of boat traffic within the area no significant effect is expected.	No - any effects are insignificant
Special Protection Areas				
South Dublin Bay and River Tolka Estuary SPA (004024) 0m. Within Survey Works	Light-bellied Brent goose (*Branta bernicla hrota*) [A046]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
	Oystercatcher (*Haematopus ostralegus*) [A130]	Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Ringed plover (*Charadrius hiaticula*) [A137] Grey plover (*Pluvialis squatarola*) [A141] Knot (Calidris canutus) [A143] Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149] Bar-tailed godwit *(Limosa lapponica*) [A157] Redshank *(Tringa totanus*) [A162] Black-headed gull (Chroicocephalus ridibundus) [A179] Roseate tern (*Sterna dougallii*) [A192] Common tern (*Sterna hirundo*) [A193] Arctic tern (*Sterna paradisaea*) [A194]	Habitat degradation – changes in water quality	The SPA is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site through run-off or within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SPA is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SPA and functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA and functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Disturbance of species	**The SPA and functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	The SPA and functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – changes in water quality	The SPA is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality at the site through run-off or within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	The SPA is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SPA is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However,	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
The Murrough SPA (004186) 0m. Within Survey Works	Red-throated diver (*Gavia stellata*) [A001] Greylag goose (*Anser anser*) [A043] Light-bellied brent goose (*Branta bernicla hrota*) [A046]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
	Wigeon (Mareca *penelope*) [A050] Teal (*Anas crecca*) [A052] Black-headed gull (*Chroicocephalus ridibundus*) [A179] Herring gull (*Larus argentatus*) [A184] Little tern (*Sterna albifrons*) [A195]	Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the SPA or functionally linked habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SPA and functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA and functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**The SPA and functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	The SPA and functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	The SPA is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the SPA or functionally linked habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	The SPA is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	The SPA is present within the surface water catchment, however the habitats are not dependent on surface water	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			levels and therefore there is no pathway to an effect.	
		Habitat degradation – hydrogeological changes	The SPA is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	The SPA is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Dalkey Islands SPA (004172) – located 0.5km north east both direct distance and hydrological distance	Roseate tern (*Sterna dougallii*) [A192] Common tern (*Sterna hirundo*) [A193] Arctic tern (*Sterna paradisaea*) [A194]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			event within the Irish Sea is expected.	
Wicklow Head SPA (004127) 2.5km south east both direct distance and hydrological distance	Kittiwake (*Rissa tridactyla*) [A188]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation –	Functionally linked habitat is present within the groundwater catchment, however the habitats	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		hydrogeological changes	are not dependent on groundwater and therefore there is no pathway to an effect.	
		Habitat degradation – spread of invasive species	Functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
North Bull Island SPA (004006) 4.8km north east both direct distance and hydrological distance	Light-bellied Brent Goose (Branta bernicla hrota) [A046] Shelduck (Tadorna tadorna) [A048] Teal (Anas crecca) [A052] Pintail (Anas acuta) [A054]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
	Shoveler (Spatula clypeata) [A056] Oystercatcher (Haematopus ostralegus) [A130] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Knot (Calidris canutus) [A143]	Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Sanderling (Calidris alba) [A144] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Turnstone (Arenaria interpres) [A169] Black-headed Gull (Chroicocephalus ridibundus) [A179]	Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked and supporting habitat is within the	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
North-West Irish Sea SPA (004236) 4.8km north east both direct distance and hydrological distance	Red-throated Diver (*Gavia stellata*) [A001] Great Northern Diver (*Gavia immer*) [A003] Fulmar (*Fulmarus glacialis*) [A009] Manx Shearwater (*Puffinus puffinus*) [A013] Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Common Scoter (*Melanitta nigra*) [A065] Little Gull (*Larus minutus*) [A177]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182] Lesser Black-backed Gull (*Larus fuscus*) [A183] Herring Gull (*Larus argentatus*) [A184] Great Black-backed Gull (*Larus marinus*) [A187] Kittiwake (*Rissa tridactyla*) [A188] Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Stema hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Little Tern (*Sterna albifrons*) [A195] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204]	Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Wicklow Mountains SPA (004040) 9.4km west direct distance, 11.8km upstream hydrological connection	Merlin (*Falco columbarius*) [A098] Peregrine (*Falco peregrinus*) [A103]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	No functionally linked habitat is within the ZoI for habitat loss, therefore there is no pathway to an effect	No – No effects at all
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			Works no significant effect is expected.	
		Habitat degradation – hydrological changes	Functionally linked habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	**Functionally linked habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works.**	**Yes – LSE cannot be excluded**
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
Howth Head Coast SPA (004113) 9.9km north east both direct distance and hydrological distance	Kittiwake (*Rissa tridactyla*) [A188]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation –	Functionally linked habitat is within the ZoI for habitat degradation from changes in	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		changes in water quality	water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	
		Mortality	Functionally linked habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Baldoyle Bay SPA (004016) 10.3km north direct distance and 17.5km hydrological distance	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Ringed Plover (*Charadrius hiaticula*) [A137] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Bar-tailed Godwit (*Limosa lapponica*) [A157]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			Works no significant pollution event is expected.	
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Irelands Eye SPA (004117) 13.1km north east direct distance and 14.2km hydrological distance	Cormorant (*Phalacrocorax carbo*) [A017] Herring Gull (*Larus argentatus*) [A184] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	
Malahide Estuary SPA (004025) 14.9km north direct distance and 20.7km hydrological distance	Great Crested Grebe (*Podiceps cristatus*) [A005] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Pintail (*Anas acuta*) [A054] Goldeneye (*Bucephala clangula*) [A067] Red-breasted Merganser (*Mergus serrator*) [A069] Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Redshank (*Tringa totanus*) [A162]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation –	Functionally linked and supporting habitat is present within the surface water	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		hydrological changes	catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999] This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Rogerstown Estuary SPA (004015) 20.5km north direct distance and 24.7km hydrological distance	Greylag Goose (*Anser anser*) [A043] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Shelduck (*Tadorna tadorna*) [A048] Shoveler (*Spatula clypeata*) [A056] Oystercatcher (Haematopus ostralegus) [A130] Ringed Plover (*Charadrius hiaticula*) [A137] Grey Plover (*Pluvialis squatarola*) [A141] Knot (*Calidris canutus*) [A143] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Redshank (*Tringa totanus*) [A162]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However,	No - any effects are ecologically inconsequential

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
	Wetlands and Waterbirds [A999]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
	This QI is singled out as the conservation objectives for this QI are different from the other QIs for this SPA.	Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			groundwater and therefore there is no pathway to an effect.	
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
		Mortality	This QI is for habitats only, therefore there is no pathway to an effect.	No – No effects at all
Lambay Island SPA (004069) 21.8km north east direct distance and 23.2km hydrological distance	Fulmar (*Fulmarus glacialis*) [A009] Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Greylag Goose (*Anser* anser) [A043] Lesser Black-backed Gull (*Larus fuscus*) [A183] Herring Gull (*Larus argentatus*) [A184] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitats are within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the functionally linked or supporting habitat. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			Works no significant pollution event within the Irish Sea is expected.	
Skerries Islands SPA (004122) 29.2km north direct distance and 24.7km hydrological distance	Cormorant (*Phalacrocorax carbo*) [A017] Shag (Gulosus aristotelis) [A018] Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Purple Sandpiper (*Calidris maritima*) [A148] Turnstone (*Arenaria interpres*) [A169] Herring Gull (*Larus argentatus*) [A184]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Rockabill SPA (004014) 29.7km north west direct distance and 33.2km hydrological distance	Purple Sandpiper (*Calidris maritima*) [A148] Roseate Tern (*Sterna dougallii*) [A192] Common Tern (*Stema hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	No - any effects are insignificant
Poulaphouca Reservoir SPA (004063) 23.9km south west direct distance, no hydrological connection	Greylag Goose (*Anser anser*) [A043] Lesser black-backed gull (*Larus fuscus*) [A183]	Habitat loss - permanent	No permanent works are being undertaken at this stage of the Survey Works, therefore there is no pathway to an effect	No – No effects at all
		Habitat loss - temporary	Functionally linked and supporting habitat is within the ZoI for habitat loss, however given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in water quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in water quality. There is potential for a pollution event to occur from the Survey Works which could change the water quality within the Irish Sea. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are insignificant
		Habitat degradation – changes in land quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in land quality. There is the potential for changes in land quality from pollution and compaction during Survey Works. However, given the small-scale nature of the Survey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			Works no significant effect is expected.	
		Habitat degradation – changes in air quality	Functionally linked and supporting habitat is within the ZoI for habitat degradation from changes in air quality. There is the potential for changes in air quality from emissions during the Survey Works. However, given the small-scale nature of the Survey Works no significant effect is expected.	No - any effects are ecologically inconsequential
		Habitat degradation – hydrological changes	Functionally linked and supporting habitat is present within the surface water catchment, however the habitats are not dependent on surface water levels and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – hydrogeological changes	Functionally linked and supporting habitat is present within the groundwater catchment, however the habitats are not dependent on groundwater and therefore there is no pathway to an effect.	No – No effects at all
		Habitat degradation – spread of invasive species	Functionally linked and supporting habitat is within the ZoI for habitat degradation from spread of invasive species. There is the potential for invasive species to be spread or introduced. However, given the small-scale nature and location of the Survey Works no effect is expected.	No – No effects at all
		Disturbance of species	Functionally linked and supporting habitat is within the ZoI for disturbance and there is potential for disturbance to QI species during the Survey Works. However, given the distance and abundance of suitable habitat closer to the SPA, impacts from disturbance are not anticipated to be significant.	No - any effects are insignificant
		Mortality	Functionally linked and supporting habitat is within the ZoI for mortality. There is potential for mortality through a pollution event which could affect QI species directly or indirectly through loss of prey	No - any effects are insignificant

Relevant European site (and connectivity)	Qualifying Interests	Potential pathways	Assessment of Likely Significant Effects (LSEs) Alone	LSE from the project alone?
			species. However, given the small-scale nature of the Survey Works no significant pollution event within the Irish Sea is expected.	

Table 5.1. From this assessment, it can be concluded that the following LSEs cannot be excluded on the basis of objective information and so Appropriate Assessment is required of them.

- South Dublin Bay SAC
    - Mudflats and sandflats not covered by seawater at low tide [1140], annual vegetation of drift lines [1210], *Salicornia* and other annuals colonising mud and sand [1310], embryonic shifting dunes [2110]
        - Habitat loss – temporary from GI and intertidal cores within Licence Area A
- Rockabill to Dalkey Island SAC
    - Harbour Porpoise (*Phocoena phocoena*) [1351]
        - Disturbance of species during bathymetric surveys
- Lambay Island SAC
    - Harbour Porpoise (*Phocoena phocoena*) [1351], Grey Seal (*Halichoerus grypus*) [1364], Harbour Seal (*Phoca vitulina*) [1365
        - Disturbance of species during bathymetric surveys and ecology boat surveys
- Codling Fault Zone SAC
    - Harbour Porpoise (*Phocoena phocoena*) [1351]
        - Disturbance of species during bathymetric surveys
- South Dublin Bay and River Tolka Estuary SPA
    - Light-bellied Brent goose (*Branta bernicla hrota*) [A046], Oystercatcher (*Haematopus ostralegus*) [A130], Ringed plover (*Charadrius hiaticula*) [A137], Grey plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149], Bar-tailed godwit (*Limosa lapponica*) [A157], Redshank (*Tringa totanus*) [A162], Black-headed gull (*Chroicocephalus ridibundus*) [A179], Roseate tern (*Sterna dougallii*) [A192], Common tern (*Sterna hirundo*) [A193], Arctic tern (*Sterna paradisaea*) [A194]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- The Murrough SPA
    - Red-throated diver (*Gavia stellata*) [A001], Greylag goose (*Anser anser*) [A043], Light-bellied brent goose (*Branta bernicla hrota*) [A046], Wigeon (Mareca *penelope*) [A050], Teal (*Anas crecca*) [A052], Black-headed gull (*Chroicocephalus ridibundus*) [A179], Herring gull (*Larus argentatus*) [A184], Little tern (*Sterna albifrons*) [A195]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones

- Dalkey Islands SPA
    - Roseate tern (*Sterna dougallii*) [A192], Common tern (*Sterna hirundo*) [A193], Arctic tern (*Sterna paradisaea*) [A194]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- Wicklow Head SPA
    - Kittiwake (*Rissa tridactyla*) [A188]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- North Bull Island SPA
    - Light-bellied Brent goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Teal (*Anas crecca*) [A052], Pintail (*Anas acuta*) [A054], Shoveler (*Spatula clypeata*) [A056], Oystercatcher (*Haematopus ostralegus*) [A130], Golden Plover (*Pluvialis apricaria*) [A140], Grey plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Bar-tailed godwit *(Limosa lapponica*) [A157], Curlew (Numenius arquata) [A160], Redshank *(Tringa totanus*) [A162], Turnstone (*Arenaria interpres*) [A169], Black-headed gull *(Chroicocephalus ridibundus*) [A179]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- North-West Irish Sea SPA
    - Red-throated Diver (*Gavia stellata*) [A001], Great Northern Diver (*Gavia immer*) [A003], Fulmar (*Fulmarus glacialis*) [A009], Manx Shearwater (*Puffinus puffinus*) [A013], Cormorant (*Phalacrocorax carbo*) [A017], Shag (*Gulosus aristotelis*) [A018], Common Scoter (*Melanitta nigra*) [A065], Little Gull (*Larus minutus*) [A177], Black-headed Gull (*Chroicocephalus ridibundus*) [A179], Common Gull (*Larus canus*) [A182], Lesser Black-backed Gull (*Larus fuscus*) [A183], Herring Gull (*Larus argentatus*) [A184], Great Black-backed Gull (*Larus marinus*) [A187], Kittiwake (*Rissa tridactyla*) [A188], Roseate Tern (*Sterna dougallii*) [A192], Common Tern (*Sterna hirundo*) [A193], Arctic Tern (*Sterna paradisaea*) [A194], Little Tern (*Sterna albifrons*) [A195], Guillemot (*Uria aalge*) [A199], Razorbill (*Alca torda*) [A200], Puffin (*Fratercula arctica*) [A204]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- Wicklow Mountains SPA
    - Merlin (*Falco columbarius*) [A098], Peregrine (*Falco peregrinus*) [A103]
        - Disturbance of species during all Survey Works within foreshore and intertidal zones

5.2 In-Combination Assessment

5.2.1 Methodology

5.2.1.1 LSEs with Potential to Act In-Combination with Other Plans and Projects

An assessment of potential in-combination effects has been carried out.

Where LSEs cannot be excluded and have been screened in for Appropriate Assessment, no in-combination assessment has been carried out for these LSEs as the Appropriate Assessment will require an in-combination assessment.

Where LSEs have been excluded on the basis that there is no pathway and therefore no effect at all or where an effect is ecologically inconsequential, no in-combination assessment has been carried out as if there is no effect at all or the effect is inconsequential, it cannot contribute to combined effects.

LSEs that have been excluded on the basis of ecological insignificance have been subject to the in-combination assessment as insignificant effects from combined plans and projects could act in combination to produce an LSE. LSEs that will be assessed are

- Habitat loss- temporary
- Habitat degradation - changes in water quality
- Habitat degradation - changes in land quality
- Disturbance of species
- Mortality

5.2.1.2 Identification of Plans and Projects with Potential to Act In-Combination

In order to take account of in-combination effects, plans and projects that are completed, approved but uncompleted, or proposed (but not yet approved) should be considered in this context (European Commission 2021a).

A search of the National Planning Application Database (NPAD) (DHLGH, accessed April 2024), Fingal and Wicklow County Council planning portals (accessed April 2024), Dublin City Council planning portal (accessed April 2024), An Bord Pleanála planning portal (accessed April 2024), foreshore licence application search (gov.ie and maritimeregulator.ie, accessed May 2024) and general web searches for major infrastructure projects and plans in the vicinity of the Survey Works in the last five years has been undertaken to identify other plans and projects that may contribute to in-combination effects.

The search identified 27 projects which were considered to have the potential for in-combination effects on habitat loss- temporary, habitat degradation – changes in water quality, disturbance of species and mortality. These are assessed in Table 5.2 below.

5.2.1.3 Assessment of In-Combination Effects

Table 5.2: Assessment of in-combination effects

Name and Application Reference	Planning Authority	Description	Pathways potentially acting in combination	Assessment of LSE in-combination	LSE in-combination?
Fingal County Development Plan 2023-2029	Fingal County Council	This plan aims to support the sustainable long-term development within Fingal.	Habitat degradation – changes in water quality Disturbance of species	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Dublin City Development Plan 2022-2028	Dublin City Council	This plan aims to support the sustainable long-term development within Dublin.	Habitat degradation – changes in water quality Disturbance of species	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No

Name and Application Reference	Planning Authority	Description	Pathways potentially acting in combination	Assessment of LSE in-combination	LSE in-combination?
Wicklow County Development Plan	Wicklow County Council	This plan aims to support the sustainable long-term development within Wicklow	Habitat degradation – changes in water quality Disturbance of species	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Tech Works Marine Ltd (FS007180)	-	Data buoy deployment off Dun Laoghaire, Dublin. Foreshore licence applied.	Habitat degradation – changes in water quality Mortality	Given the temporary and small-scale nature of the works, there will be no significant effect in combination with the Survey Works.	No
Mac Lir Offshore Wind Array (FS007472)	-	Site investigations for proposed offshore wind farm off Dublin, Wicklow and Wexford. Foreshore licence applied.	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	Given the temporary and localised nature of the works, the in-combination effects are considered insignificant.	No
Mac Lir Offshore Wind Array (FS007472)	-	Site investigations and benthic surveys within a potential offshore export cable corridor. Foreshore licence applied.	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	Given the temporary and localised nature of the works, the in-combination effects are considered insignificant.	No
Leinster Offshore Wind Array (FS007162)	-	Site investigations for proposed offshore wind farm off Dublin. Foreshore licence applied.	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Greystones Offshore Wind Array (FS007367)	-	Site investigations for proposed offshore wind farm off Greystones. Foreshore licence applied.	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Réalt na Mara Offshore Wind Array (FS007330)	-	Site investigations for proposed offshore wind farm off Wicklow and	Habitat loss – temporary Habitat degradation –	A Natura Impact Report has been completed and concluded that with mitigation measures	No

Name and Application Reference	Planning Authority	Description	Pathways potentially acting in combination	Assessment of LSE in-combination	LSE in-combination?
		Dublin. Foreshore licence applied.	changes in water quality Mortality	there will be no impact on European sites alone or in-combination.	
Lir Offshore Wind Array (FS007392)	-	Site investigations for proposed offshore wind farm off Counties Louth, Meath and Dublin. Foreshore licence applied.	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Skerries Environmental Monitoring (FS005722)	-	Environmental monitoring off the coast of Skerries, County Dublin. Foreshore licence applied.	Disturbance of species	A Natura Impact Statement has been completed as part of the foreshore application and concluded that there will be no in-combination effects as part of the works	No
Irish Water Greater Dublin Drainage Outfall (FS006843)	City of Dublin	Construction of a 5.3km marine section of outfall pipe. Foreshore licence applied.	Disturbance of species Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
MaresConnect Electricity Interconnector Site Investigations (FS007635)	-	Site investigation works for an electricity interconnector between Portmaknock and Skerries, Co. Dublin. In consultation.	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Statkraft North Irish Sea Array Site Investigations (FS007358)	-	Site investigations and benthic surveys within a potential offshore export cable corridor off Counties Louth, Meath and Dublin. Foreshore licence determined. Planning submission date in 2024	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No

Name and Application Reference	Planning Authority	Description	Pathways potentially acting in combination	Assessment of LSE in-combination	LSE in-combination?
Sea Stacks Offshore Wind Array (FS007134)	-	Site investigations for proposed offshore wind farm off Dublin and Wicklow. Foreshore licence applied.	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Broadmeadow Way Greenway (FS006909)		Development of a new greenway between Malahide and Newbridge via the railway causeway across the Malahide estuary. In consultation	Disturbance of species	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Sunrise Offshore Wind Array (FS007151)	-	Site investigations for proposed offshore wind farm off Dublin and Wicklow. In consultation.	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Bray Offshore Wind Array (FS006463)	-	Construction of proposed offshore wind farm off Bray, Wicklow. Foreshore licence applied.	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Microsoft Ireland Operations (LIC230016)	-	Site investigations for a proposed subsea fibre optic cable from Portmarnock, Dublin to Abergele, Wales	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Microsoft Ireland Operations (LIC230018)	-	Site investigations for a proposed subsea fibre optic cable from Dublin Port to Angelsey, Wales	Habitat loss – temporary Habitat degradation – changes in water quality Mortality	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No

Name and Application Reference	Planning Authority	Description	Pathways potentially acting in combination	Assessment of LSE in-combination	LSE in-combination?
Poolbeg GIS Substation	Dublin City Council	A proposed electricity transmission development that primarily comprises the replacement and/or enhancement, and expansion of existing substation infrastructure. Includes associated GI and survey works.	Habitat degradation – changes in water quality Disturbance of species	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
CP1021	Meath County Council, Fingal County Council and Dublin City Council	An extension to the East Meath to North Dublin electricity network. Includes associated GI and survey works.	Habitat degradation – changes in water quality Disturbance of species	A Natura Impact Report has been completed and concluded that with mitigation measures there will be no impact on European sites alone or in-combination.	No
Kish Bank Offshore Windfarm (FS006462)	Dun Laoghaire-Rathdown County Council	500MW offshore wind farm 11km off Dublin coast. Includes associated survey works. currently in consultation.	Habitat loss – temporary Habitat degradation – changes in water quality Disturbance of species Mortality	Given the early stage of the application, this will have no effect in-combination with the Survey Works	No
Codling Banks Array (FS006460)	Wicklow County Council	1.3GW offshore wind farm 13km off Wicklow coast. Includes associated survey works. Currently in consultation	Habitat degradation – changes in water quality Disturbance of species Mortality	Given the early stage of the application, this will have no effect in-combination with the Survey Works	No
Dublin BusConnects 313509	Dublin City Council	BusConnects Belfield/Blackrock to City Centre Core Bus Corridor Scheme 50m south of Survey Works area at closes point. Approved with conditions 27/03/24	Habitat degradation – changes in water quality	An NIS completed as part of the application states that with mitigation measures there will be no alone or in-combination effect on any European sites.	No
Seagull Cottage, Clonmannon 2360091	Wicklow County Council	The construction of a storey-and-a-half extension to the side and alterations	Habitat degradation – changes in water quality	Given the small scale of the development and location beyond the railway, there will	No

Name and Application Reference	Planning Authority	Description	Pathways potentially acting in combination	Assessment of LSE in-combination	LSE in-combination?
		to existing cottage including: the removal of pitched roofs to porches and replacement with single mono-pitch roof, new entrance to rear with new mono-pitch canopy, alterations to existing elevations, new Velux window to northern roof, new lime render; and all associated site works 100m west of Survey Works area. Conditionally granted 29/11/2023		be no significant effect on water quality in combination with the Survey Works.	

5.2.2 Conclusions on In-Combination Effects

It can be concluded on the basis of objective information from the assessment in Table 5.2 that there is no potential for in-combination effects of the Survey Works and other plans or projects to undermine the integrity of any European sites.

6. Screening Statement and Conclusion

The Survey Works will occur within South Dublin Bay SAC, The Murrough SAC, South Dublin Bay and Tolka Estuary SPA and The Murrough SPA. The Survey Works are not directly connected with or necessary to the conservation management of any these European sites.

This AA Screening Report presents the objective scientific information required to inform a robust and complete examination of the potential impacts of the Survey Works on European sites.

The conclusion of the Screening for AA is that, in the absence of mitigation measures, the following LSE to undermine the conservation objectives of the following European sites cannot be excluded:

- South Dublin Bay SAC
    - Mudflats and sandflats not covered by seawater at low tide [1140], annual vegetation of drift lines [1210], *Salicornia* and other annuals colonising mud and sand [1310], embryonic shifting dunes [2110]
        - Habitat loss – temporary from GI and intertidal cores within Licence Area A
- Rockabill to Dalkey Island SAC
    - Harbour Porpoise (*Phocoena phocoena*) [1351]
        - Disturbance of species during bathymetric surveys
- Lambay Island SAC
    - Harbour Porpoise (*Phocoena phocoena*) [1351], Grey Seal (*Halichoerus grypus*) [1364], Harbour Seal (*Phoca vitulina*) [1365
        - Disturbance of species during bathymetric surveys and ecology boat surveys
- Codling Fault Zone SAC
    - Harbour Porpoise (*Phocoena phocoena*) [1351]
        - Disturbance of species during bathymetric surveys
- South Dublin Bay and River Tolka Estuary SPA
    - Light-bellied Brent goose (*Branta bernicla hrota*) [A046], Oystercatcher (*Haematopus ostralegus*) [A130], Ringed plover (*Charadrius hiaticula*) [A137], Grey plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144] Dunlin (*Calidris alpina*) [A149], Bar-tailed godwit *(Limosa lapponica*) [A157], Redshank *(Tringa totanus*) [A162], Black-headed gull *(Chroicocephalus ridibundus*) [A179], Roseate tern (*Sterna dougallii*) [A192], Common tern (*Sterna hirundo*) [A193], Arctic tern (*Sterna paradisaea*) [A194]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- The Murrough SPA
    - Red-throated diver (*Gavia stellata*) [A001], Greylag goose (*Anser anser*) [A043], Light-bellied brent goose (*Branta bernicla hrota*) [A046], Wigeon (Mareca *penelope*) [A050], Teal (*Anas crecca*) [A052], Black-headed gull (*Chroicocephalus ridibundus*) [A179], Herring gull (*Larus argentatus*) [A184], Little tern (*Sterna albifrons*) [A195]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones

- Dalkey Islands SPA
    - Roseate tern (*Sterna dougallii*) [A192], Common tern (*Sterna hirundo*) [A193], Arctic tern (*Sterna paradisaea*) [A194]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- Wicklow Head SPA
    - Kittiwake (*Rissa tridactyla*) [A188]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- North Bull Island SPA
    - Light-bellied Brent goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Teal (*Anas crecca*) [A052], Pintail (*Anas acuta*) [A054], Shoveler (*Spatula clypeata*) [A056], Oystercatcher (*Haematopus ostralegus*) [A130], Golden Plover (*Pluvialis apricaria*) [A140], Grey plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Bar-tailed godwit *(Limosa lapponica*) [A157], Curlew (Numenius arquata) [A160], Redshank *(Tringa totanus*) [A162], Turnstone (*Arenaria interpres*) [A169], Black-headed gull *(Chroicocephalus ridibundus*) [A179]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- North-West Irish Sea SPA
    - Red-throated Diver (*Gavia stellata*) [A001], Great Northern Diver (*Gavia immer*) [A003], Fulmar (*Fulmarus glacialis*) [A009], Manx Shearwater (*Puffinus puffinus*) [A013], Cormorant (*Phalacrocorax carbo*) [A017], Shag (*Gulosus aristotelis*) [A018], Common Scoter (*Melanitta nigra*) [A065], Little Gull (*Larus minutus*) [A177], Black-headed Gull (*Chroicocephalus ridibundus*) [A179], Common Gull (*Larus canus*) [A182], Lesser Black-backed Gull (*Larus fuscus*) [A183], Herring Gull (*Larus argentatus*) [A184], Great Black-backed Gull (*Larus marinus*) [A187], Kittiwake (*Rissa tridactyla*) [A188], Roseate Tern (*Sterna dougallii*) [A192], Common Tern (*Sterna hirundo*) [A193], Arctic Tern (*Sterna paradisaea*) [A194], Little Tern (*Sterna albifrons*) [A195], Guillemot (*Uria aalge*) [A199], Razorbill (*Alca torda*) [A200], Puffin (*Fratercula arctica*) [A204]
        - Disturbance of species during all Survey Works within intertidal and subtidal zones
- Wicklow Mountains SPA
    - Merlin (*Falco columbarius*) [A098], Peregrine (*Falco peregrinus*) [A103]
        - Disturbance of species during all Survey Works within foreshore and intertidal zones

It is therefore required that the Survey Works are progressed to Stage 2 Appropriate Assessment, which will comprise a detailed assessment of the potential for adverse effects on the integrity of European sites based on these potential LSEs.

Detailed information to inform the AA for the Survey Works will be presented in a Natura Impact Statement which will be submitted at planning to enable the Competent Authority to undertake an AA in respect of the Survey Works.

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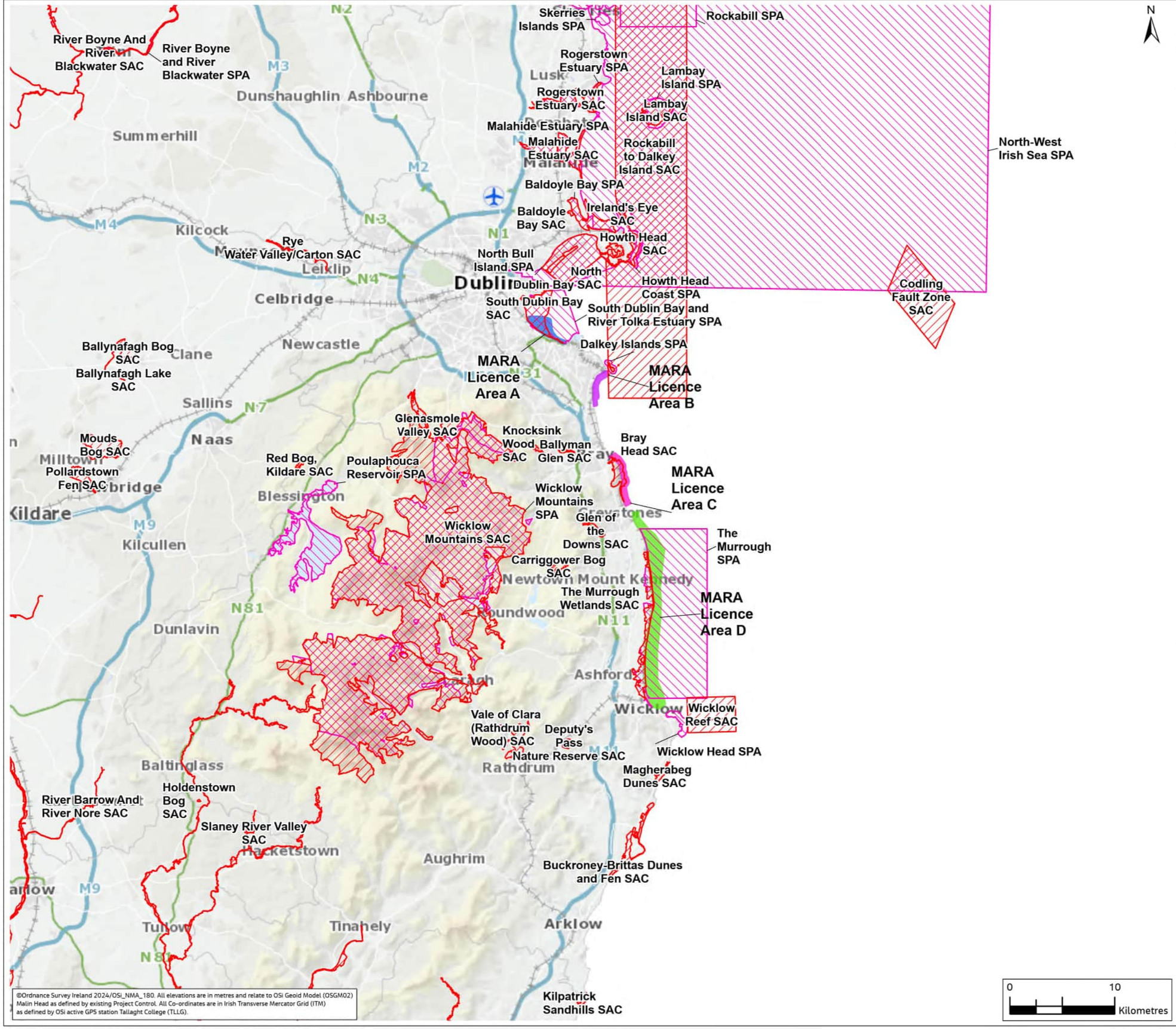
Appendix A. Figures

FIGURE 2

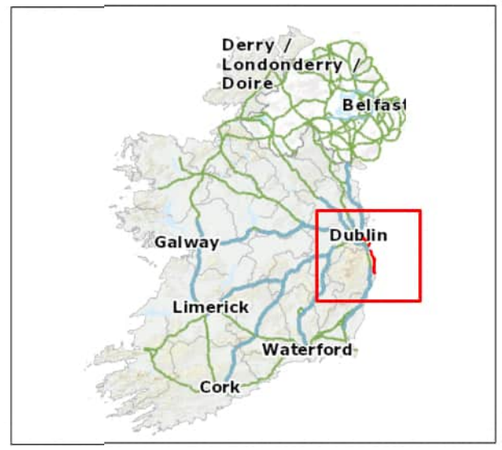


©Ordnance Survey Ireland 2024/OSi_NMA_180. All elevations are in metres and relate to OSi Geoid Model (OSGM02) Malin Head as defined by existing Project Control. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSi active GPS station Tallaght College (TLLG).

Legend

MARA Licence Area

- Area A
- Area B
- Area C
- Area D
- Special Protection Areas
- Special Area of Conservation



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
P01	May 2024	For Review and Comment	SMD	SB	RH	KD

Jacobs

Client: Iarnród Éireann Infrastructure

Project: ECRIPP

Drawing Title: Site location plan with SPAs & SACs

Drawing Status: For Review and Comment

Scale @ A3	1:350,000	DO NOT SCALE
Jacobs No.	D3658301	
Client No.		
Drawing No.	7694-XX-P2-DWG-EV-JAC-0001	

FIGURE 2

"©Ordnance Survey Ireland 2023/OSi_NMA_180. All elevations are in metres and relate to OSi Geoid Model (OSGM02) Malin Head as defined by existing Project Control. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSi active GPS station Tallaght College (TLLG)."

Legend

MARA Licence Area

- Area A
- High Water Mark

Geophysical and GeoTechnical Investigations Within MARA Licence Area

- Slit Trench
- Windowless Sampler
- Geophysical Survey Area

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
P01	May 2024	For Review and Comment	SMD	SB	RH	DK

Jacobs

Client: Iarnród Éireann Infrastructure

Project: ECRIPP

Drawing Title: Site Location Plan with GeoTechnical Investigation Locations & Geophysical Survey Areas (Sheet 1 of 3)

Drawing Status: For Review and Comment

Scale @ A3	1:5,000 DO NOT SCALE
Jacobs No.	D3658301
Client No.	
Drawing No.	7694-XX-P2-DWG-EV-JAC-0002

FIGURE 2

CCA1WS033
CCA1ST009
CCA1ST010
CCA1WS032
CCA1WS027
CCA1ST012
CCA1ST011
CCA1WS040 (RVT)
CCA1ST013
CCA1ST014
CCA1ST015
CCA1WS028
CCA1ST016
CCA1ST017
CCA1WS041 (RVT)
CCA1ST018
CCA1WS031
CCA1WS043
Dublin Bay
CCA1WS030
CCA1.Geophysical Area 16
CCA1WS042
CCA1DCP001
CCA1.Geophysical Area 15
N
HWM
INTA
Blackrock College
Blackrock Clinic
Dominican College
Castledawson Ave
Rock Rd R118
Westfield
Pea Field
Brooklawn
Woodview
Waltham Tce
Sydney Ave
BLACKROCK
Rock Hill
Frascati Rd
Frascati Pk
George's Ave
Eagle Hill
Anglesea Ave
Blackrock
Idrone Tce
Idrone Ln
Main St
Bath Place
NEWTON BLACKROCK
Temple Rd
Newtown Ave
Maretimo Gardens East
N31
Barclay Court
Block 5
Tobernea
0
200
Meters

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Legend

MARA Licence Area

- Area A
- High Water Mark

Geophysical and GeoTechnical Investigations Within MARA Licence Area

- Slit Trench
- Windowless Sampler
- DP
- Geophysical Survey Area

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
P01	May 2024	For Review and Comment	SMD	SB	RH	DK

Jacobs

Client: Iarnród Éireann Infrastructure

Project: ECRIPP

Drawing Title: Site Location Plan with GeoTechnical Investigation Locations & Geophysical Survey Areas (Sheet 2 of 3)

Drawing Status: For Review and Comment

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	D3658301	
Client No.		

Drawing No.: 7694-XX-P2-DWG-EV-JAC-0002

FIGURE 2

Legend

MARA Licence Area

- Area A
- High Water Mark

Geophysical and GeoTechnical Investigations Within MARA Licence Area

- Trial Pit
- Sediment Sampling
- Geophysical Survey Area

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
P01	May 2024	For Review and Comment	SMD	SB	RH	DK

Jacobs

Client: Iarnród Éireann Infrastructure

Project: DCRIPP

Drawing Title: Site Location Plan with GeoTechnical Investigation Locations & Geophysical Survey Areas (Sheet 3 of 3)

Drawing Status: For Review and Comment

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	D3658301	
Client No.		
Drawing No.	7694-XX-P2-DWG-EV-JAC-0002	

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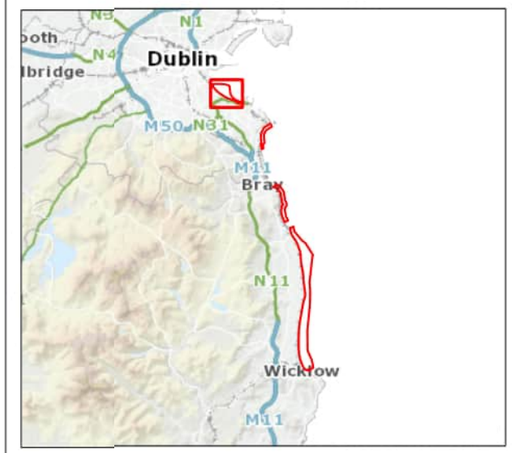
0 200 Meters

FIGURE 3

Legend

MARA Licence Area

- Area A
- Proposed Offshore Survey AOI



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
P01	May 2024	For Review and Comment	SMD	SB	RH	DK

Jacobs

Client: Iarnród Éireann Infrastructure

Project: ECRIPP

Drawing Title: Site Location Plan with Proposed Offshore Survey AOI (Sheet 1 of 4)

Drawing Status: For Review and Comment

Scale @ A3	1:13,000	DO NOT SCALE
Jacobs No.	D3658301	
Client No.		
Drawing No.	7694-XX-P2-DWG-EV-JAC-0003	

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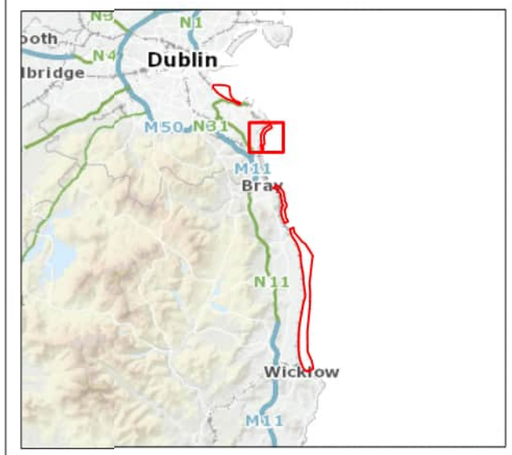
0 1 Kilometers

FIGURE 3

Legend

MARA Licence Area

- Area B
- Proposed Offshore Survey AOI



P01	May 2024	For Review and Comment	SMD	SB	RH	DK
Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd

Jacobs

Client: Iarnród Éireann Infrastructure

Project: ECRIPP

Drawing Title: Site Location Plan with Proposed Offshore Survey AOI (Sheet 2 of 4)

Drawing Status: For Review and Comment

Scale @ A3	1:14,000	DO NOT SCALE
Jacobs No.	D3658301	
Client No.		
Drawing No.	7694-XX-P2-DWG-EV-JAC-0003	

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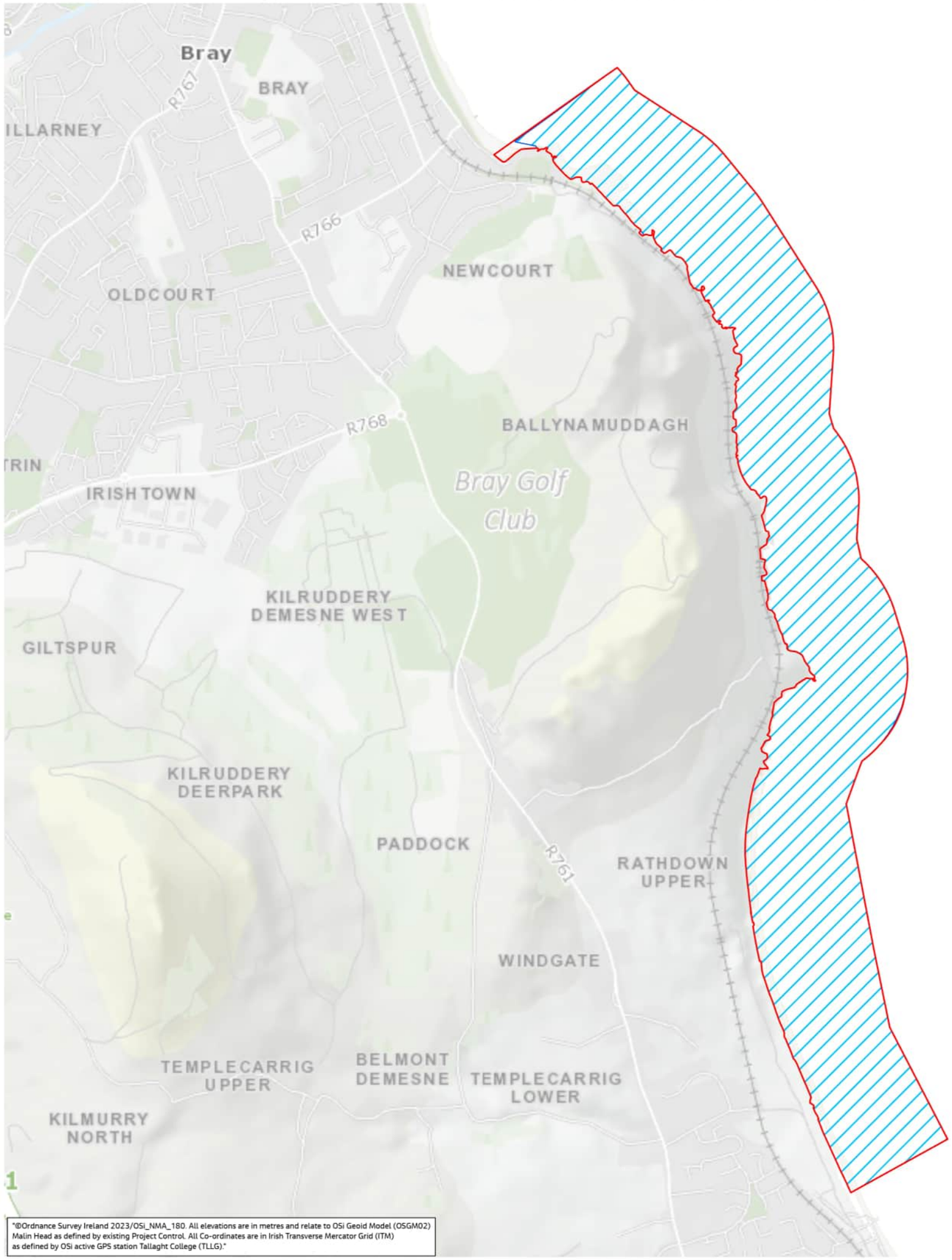
0 1 Kilometers

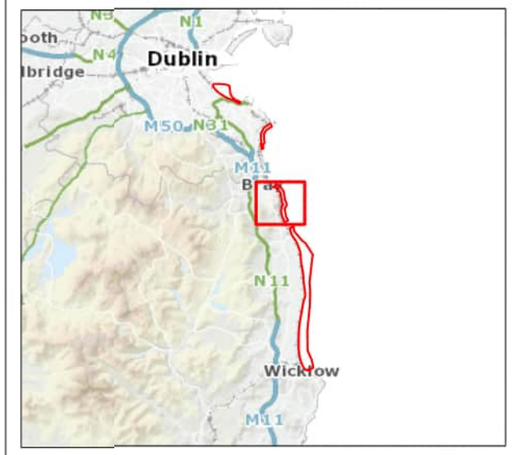
FIGURE 3



Legend

MARA Licence Area

- Area C
- Proposed Offshore Survey AOI



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
P01	May 2024	For Review and Comment	SMD	SB	RH	DK

Jacobs

Client: Iarnród Éireann Infrastructure

Project: ECRIPP

Drawing Title: Site Location Plan with Proposed Offshore Survey AOI (Sheet 3 of 4)

Drawing Status: For Review and Comment

Scale @ A3	1:20,000	DO NOT SCALE
Jacobs No.	D3658301	
Client No.		
Drawing No.	7694-XX-P2-DWG-EV-JAC-0003	

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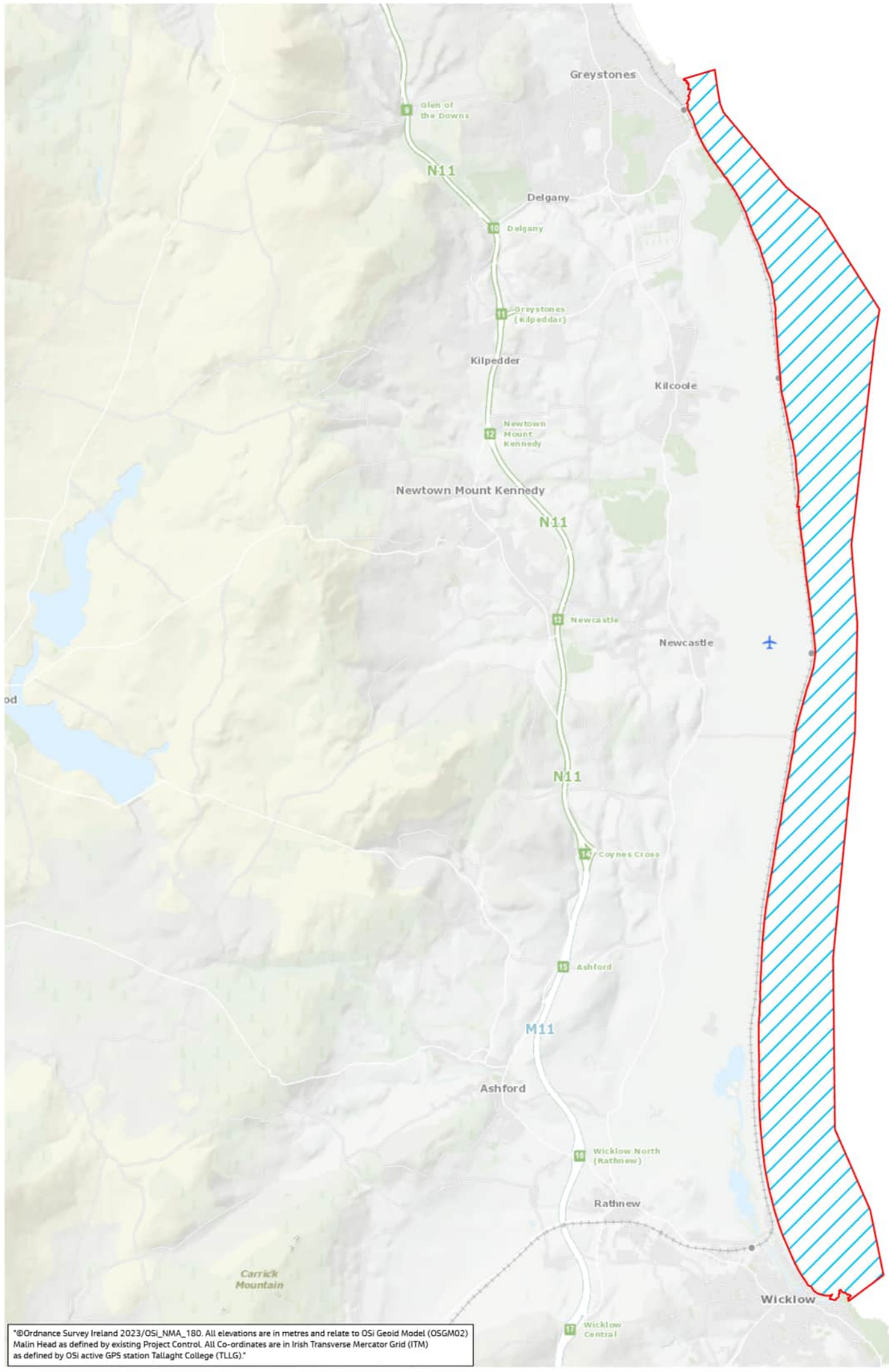
FIGURE 3



"©Ordnance Survey Ireland 2023/OSi_NMA_180. All elevations are in metres and relate to OSi Geoid Model (OSGM02) Malin Head as defined by existing Project Control. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSi active GPS station Tallaght College (TLLG)."

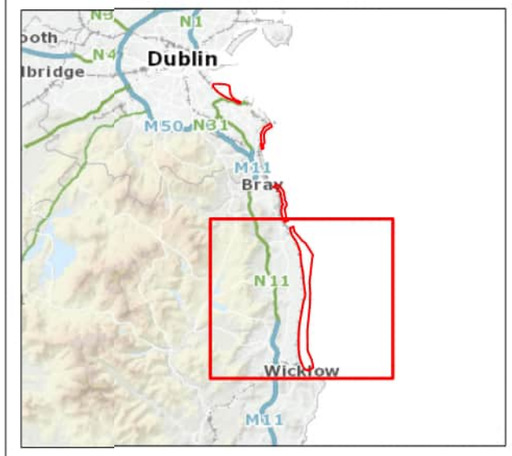
N

0 1 Kilometers

Legend

MARA Licence Area

- Area D
- Proposed Offshore Survey AOI



Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
P01	May 2024	For Review and Comment	SMD	SB	RH	DK

Jacobs

Client: Iarnród Éireann Infrastructure

Project: ECRIPP

Drawing Title: Site Location Plan with Proposed Offshore Survey AOI (Sheet 4 of 4)

Drawing Status: For Review and Comment

Scale @ A3	1:75,000	DO NOT SCALE
Jacobs No.	D3658301	
Client No.		
Drawing No.	7694-XX-P2-DWG-EV-JAC-0003	

Appendix B. Borehole Locations

Not Used

Appendix C. NBDC Desk-Based Review Results

Table 1: Results of the NBDC desk-based review of Annex I bird species. Species in bold indicate a QI of a European Site within the ZoI. A dash (-) has been used to signify where no data was returned.

	Designation	Licence area	Number of records	Most recent record
Arctic tern (Sterna paradisaea)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	8	2017
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	2	2010
Atlantic puffin (Fratercula arctica)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	3	2010
Bar-tailed godwit (Limosa lapponica)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	14	2018
		Licence Area B	2	2016
		Licence Area C	-	-
		Licence Area D	9	2022
Common tern (Sterna hirundo)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	11	2019
		Licence Area B	3	2023
		Licence Area C	1	2011
		Licence Area D	7	2010
Dunlin (Calidris alpina)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	23	2012
		Licence Area B	4	2012
		Licence Area C	-	-
		Licence Area D	44	2023
European golden plover (Pluvialis apricaria)	EU Birds Directive: Annex I, Annex II & Annex III species Protected Species: Wildlife Acts	Licence Area A	3	2011
		Licence Area B	23	2012
		Licence Area C	1	2010
		Licence Area D	16	2023
Great northern Diver (Gavia immer)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	2	2012
		Licence Area B	3	2012
		Licence Area C	1	2011
		Licence Area D	5	2011
Little gull (Larus minutus)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	7	2017
		Licence Area B	5	2019
		Licence Area C	-	-
		Licence Area D	13	2016

Little tern (Sternula albifrons)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	50	2022
Merlin (Falco columbarius)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	7	2011
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	7	2023
Peregrine falcon (Falco peregrinus)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	18	2022
		Licence Area B	1	2010
		Licence Area C	7	2016
		Licence Area D	14	2023
Red-throated diver (Gavia stellata)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	12	2016
		Licence Area B	50	2016
		Licence Area C	-	-
		Licence Area D	40	2023
Roseate tern (Sterna dougallii)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	7	2012
		Licence Area B	1	2016
		Licence Area C	-	-
		Licence Area D	1	2020
Common Goldeneye (Bucephala clangula)	EU Birds Directive: Annex II species Protected Species: Wildlife Acts	Licence Area A	1	2011
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	6	2011
Eurasian curlew (Numenius arquata)	EU Birds Directive: Annex II species Protected Species: Wildlife Acts	Licence Area A	27	2023
		Licence Area B	10	2012
		Licence Area C	1	2011
		Licence Area D	86	2023
Red-breasted merganser (Mergus serrator)	EU Habitats Directive: Annex II species Protected Species: Wildlife Acts	Licence Area A	6	2016
		Licence Area B	3	2016
		Licence Area C	-	-
		Licence Area D	5	2011
Common scoter (Melanitta nigra)	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Licence Area A	1	2011
		Licence Area B	-	-
		Licence Area C	1	2017
		Licence Area D	12	2023
Eurasian teal (Anas crecca)		Licence Area A	20	2012
		Licence Area B	1	2012

	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Licence Area C	-	-
		Licence Area D	99	2023
Eurasian wigeon (Mareca penelope)	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Licence Area A	3	2018
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	79	2023
Greylag goose (Anser anser)	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	11	2017
Northern pintail (Anas acuta)	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	10	2011
Northern shoveler (Spatula clypeata)	EU Birds Directive: Annex II & Annex III species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	67	2023
Black-headed gull (Chroicocephalus ridibundus)	Protected Species: Wildlife Acts	Licence Area A	50	2023
		Licence Area B	9	2023
		Licence Area C	2	2017
		Licence Area D	83	2023
Black-legged kittiwake (Rissa tridactyla)	Protected Species: Wildlife Acts	Licence Area A	49	2023
		Licence Area B	21	2017
		Licence Area C	22	2017
		Licence Area D	44	2016
Black-tailed godwit (Limosa limosa)	Protected Species: Wildlife Acts	Licence Area A	33	2019
		Licence Area B	1	2010
		Licence Area C	-	-
		Licence Area D	44	2023
Brent goose (Branta bernicla)	Protected Species: Wildlife Acts	Licence Area A	23	2019
		Licence Area B	5	2017
		Licence Area C	1	2011
		Licence Area D	41	2023
		Licence Area A	41	2023

Common guillemot (Uria aalge)	Protected Species: Wildlife Acts	Licence Area B	11	2016
		Licence Area C	19	2017
		Licence Area D	49	2023
Common Gull (Larus canus)	Protected Species: Wildlife Act	Licence Area A	16	2023
		Licence Area B	2	2012
		Licence Area C	2	2020
		Licence Area D	22	2016
Common redshank (Tringa totanus)	Protected Species: Wildlife Acts	Licence Area A	44	2019
		Licence Area B	32	2017
		Licence Area C	-	-
		Licence Area D	54	2023
Common shelduck (Tadorna tadorna)	Protected Species: Wildlife Acts	Licence Area A	9	2019
		Licence Area B	11	2016
		Licence Area C	-	-
		Licence Area D	70	2023
Eurasian oystercatcher (Haematopus ostralegus)	Protected Species: Wildlife Acts	Licence Area A	36	2023
		Licence Area B	5	2017
		Licence Area C	1	2011
		Licence Area D	72	2023
European shag (Golamula aristotelis)	Protected Species: Wildlife Acts	Licence Area A	54	2023
		Licence Area B	26	2020
		Licence Area C	22	2020
		Licence Area D	53	2023
Great black-backed gull (Laurs marinus)	Protected Species: Wildlife Acts	Licence Area A	39	2023
		Licence Area B	8	2023
		Licence Area C	4	2023
		Licence Area D	59	2023
Great cormorant (Phalacrocorax carbo)	Protected Species: Wildlife Acts	Licence Area A	57	2023
		Licence Area B	27	2020
		Licence Area C	22	2023
		Licence Area D	76	2023
Great crested grebe (Podiceps cristatus)	Protected Species: Wildlife Acts	Licence Area A	19	2016
		Licence Area B	5	2017
		Licence Area C	1	2011
		Licence Area D	3	2011
Grey plover (Pluvialis squatarola)	Protected Species: Wildlife Acts	Licence Area A	1	2010
		Licence Area B	6	2012
		Licence Area C	-	-

		Licence Area D	8	2023
Herring gull (Larus argentatus)	Protected Species: Wildlife Acts	Licence Area A	71	2023
		Licence Area B	9	2016
		Licence Area C	13	2017
		Licence Area D	87	2023
Lesser black-backed gull (Larus fuscus)	Protected Species: Wildlife Acts	Licence Area A	14	2020
		Licence Area B	5	2017
		Licence Area C	1	2011
		Licence Area D	15	2012
Manx Shearwater (Puffinus puffinus)	Protected Species: Wildlife Acts	Licence Area A	1	1991
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	23	2020
Razorbill (Alca torda)	Protected Species: Wildlife Acts	Licence Area A	29	2022
		Licence Area B	7	2016
		Licence Area C	13	2017
		Licence Area D	58	2023
Red knot (Calidris canutus)	Protected Species: Wildlife Acts	Licence Area A	16	2012
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	10	2023
Ringed plover (Charadrius hiaticula)	Protected Species: Wildlife Acts	Licence Area A	13	2012
		Licence Area B	6	2020
		Licence Area C	-	-
		Licence Area D	71	2023
Northern fulmar (Fulmarus glacialis)	N/A	Licence Area A	15	2016
		Licence Area B	31	2012
		Licence Area C	1	2017
		Licence Area D	25	2020
Purple sandpiper (Calidris maritima)	N/A	Licence Area A	10	2023
		Licence Area B	-	-
		Licence Area C	1	2011
		Licence Area D	3	2011
Ruddy Turnstone (Arenaria interpres)	N/A	Licence Area A	33	2023
		Licence Area B	11	2023
		Licence Area C	-	-
		Licence Area D	25	2023
	N/A	Licence Area A	-	-

Sanderling (Calidris alba)		Licence Area B	1	2011
		Licence Area C	-	-
		Licence Area D	6	2010
Bewick's swan (Cygnus columbianus)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	7	2012
Black tern (Chlidonias niger)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	1	2009
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	1	2001
Black-throated diver (Gavia arctica)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	1	2014
Common kingfisher (Alcedo atthis)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	7	2017
		Licence Area B	76	2017
		Licence Area C	1	2023
		Licence Area D	16	2023
Cory's shearwater (Calonectris diomedea)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	1	2007
Eurasian Marsh Harrier (Circus aeruginosus)	EU Birds Directive: Annex I Species Protected Species: Wildlife Act	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	4	2019
European storm-petrel (Hydrobates pelagicus)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	21	2012
		Licence Area C	-	-
		Licence Area D	1	2009
Hen harrier (Circus cyaneus)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	4	2011
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	12	2021
Little egret (Egretta garzetta)	EU Birds Directive: Annex I species	Licence Area A	49	2022
		Licence Area B	1	2002

	Protected Species: Wildlife Acts	Licence Area C	-	-
		Licence Area D	101	2023
Mediterranean gull (Larus melanocephalus)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	13	2015
		Licence Area B	7	2012
		Licence Area C	-	-
		Licence Area D	12	2012
Red-necked phalarope (Phalaropus lobatus)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	1	1957
		Licence Area B	17	2011
		Licence Area C	-	-
		Licence Area D	1	2006
Ruff (Philomachus pugnax)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	3	2011
Sandwich tern (Sterna sandvicensis)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	9	2022
		Licence Area B	65	2012
		Licence Area C	3	2016
		Licence Area D	54	2023
Short-eared owl (Asio flammeus)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	2	2020
		Licence Area B	-	-
		Licence Area C	1	2020
		Licence Area D	7	2011
Whooper swan (Cygnus cygnus)	EU Birds Directive: Annex I species Protected Species: Wildlife Acts	Licence Area A	2	2011
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	32	2023
Greater white-fronted goose (Anser albifrons)	EU Birds Directive: Annex I, Annex II & Annex III species Protected Species: Wildlife Acts	Licence Area A	-	-
		Licence Area B	-	-
		Licence Area C	-	-
		Licence Area D	3	2011

Appendix D. Wintering Bird Survey Results

October wintering bird survey results. Species in bold indicate a QI of a European Site within the ZoI

Licence Area	Vantage Point	Species	Species Code	Peak Count
CCA1	VP1	Bar-tailed Godwit	BA	250
CCA1	VP1	Brent goose	BG	6
CCA1	VP1	Black-headed gull	BH	420
CCA1	VP1	Black-tailed godwit	BW	14
CCA1	VP1	Common gull	CM	25
CCA1	VP1	Curlew	CU	38
CCA1	VP1	Dunlin	DN	200
CCA1	VP1	Little egret	ET	2
CCA1	VP1	Great black-backed gull	GB	1
CCA1	VP1	Greenshank	GK	8
CCA1	VP1	Golden plover	GP	50
CCA1	VP1	Grey plover	GV	1
CCA1	VP1	Herring gull	HG	85
CCA1	VP1	Knot	KN	60
CCA1	VP1	Lesser black-backed gull	LB	1
CCA1	VP1	Mediterranean gull	MU	60
CCA1	VP1	Oystercatcher	OC	750
CCA1	VP1	Redshank	RK	171
CCA1	VP1	Teal	T.	70
CCA1	VP1	Wigeon	WN	7
CCA1	VP2	Black-headed gull	BH	150
CCA1	VP2	Black-tailed godwit	BW	12
CCA1	VP2	Cormorant	CA	10
CCA1	VP2	Great black-backed gull	GB	2
CCA1	VP2	Great crested grebe	GG	5
CCA1	VP2	Herring gull	HG	150
CCA1	VP2	Knot	KN	3
CCA1	VP2	Oystercatcher	OC	200
CCA1	VP2	Redshank	RK	18
CCA1	VP2	Ringed plover	RP	35
CCA1	VP2	Turnstone	TT	6
CCA2-3	VP1	Black-headed gull	BH	1

CCA2-3	VP1	Cormorant	CA	2
CCA2-3	VP1	Herring gull	HG	5
CCA2-3	VP1	Rock Pipit	RC	2
CCA2-3	VP1	Shag	SA	10
CCA5	VP1	Black-headed gull	BH	12
CCA5	VP1	Cormorant	CA	3
CCA5	VP1	Great black-backed gull	GB	3
CCA5	VP1	Herring gull	HG	10
CCA5	VP1	Lesser black-backed gull	LB	1
CCA5	VP1	Mute swan	MS	2
CCA5	VP1	Shag	SA	2
CCA6.1	VP1	Black-headed gull	BH	8
CCA6.1	VP1	Cormorant	CA	2
CCA6.1	VP1	Great black-backed gull	GB	1
CCA6.1	VP1	Gannet	GX	1
CCA6.1	VP1	Herring gull	HG	3
CCA6.1	VP1	Kestrel	K.	1
CCA6.1	VP1	Lesser black-backed gull	LB	3
CCA6.1	VP1	Oystercatcher	OC	40
CCA6.1	VP1	Razorbill	RA	1
CCA6.1	VP1	Red-throated diver	RH	2
CCA6.1	VP1	Shag	SA	3
CCA6.1	VP1	Turnstone	TT	1
CCA6.1	VP2	Black-headed gull	BH	8
CCA6.1	VP2	Cormorant	CA	4
CCA6.1	VP2	Curlew	CU	72
CCA6.1	VP2	Common scoter	CX	1
CCA6.1	VP2	Great black-backed gull	GB	1
CCA6.1	VP2	Herring gull	HG	8
CCA6.1	VP2	Merlin	ML	1
CCA6.1	VP2	Oystercatcher	OC	1
CCA6.1	VP2	Razorbill	RA	3
CCA6.1	VP2	Red-throated diver	RH	2
CCA6.1	VP2	Ringed plover	RP	24

CCA6.1	VP2	Shag	SA	1
CCA6.1	VP3	Black-headed gull	BH	4
CCA6.1	VP3	Cormorant	CA	6
CCA6.1	VP3	Curlew	CU	8
CCA6.1	VP3	Common scoter	CX	1
CCA6.1	VP3	Little egret	ET	3
CCA6.1	VP3	Great black-backed gull	GB	1
CCA6.1	VP3	Golden plover	GP	3
CCA6.1	VP3	Guillemot	GU	1
CCA6.1	VP3	Grey plover	GV	1
CCA6.1	VP3	Gannet	GX	2
CCA6.1	VP3	Grey heron	H.	2
CCA6.1	VP3	Herring gull	HG	30
CCA6.1	VP3	Lapwing	L.	102
CCA6.1	VP3	Little gull	LU	3
CCA6.1	VP3	Mallard	MA	3
CCA6.1	VP3	Mute swan	MS	1
CCA6.1	VP3	Oystercatcher	OC	32
CCA6.1	VP3	Peregrine	PE	1
CCA6.1	VP3	Razorbill	RA	2
CCA6.1	VP3	Red-throated diver	RH	3
CCA6.1	VP3	Redshank	RK	7
CCA6.1	VP3	Shag	SA	4
CCA6.1	VP3	Shelduck	SU	1
CCA6.1	VP3	Shoveler	SV	7
CCA6.1	VP3	Teal	T.	1
CCA6.1	VP3	Wigeon	WN	182
CCA6.1	VP3	Whooper swan	WS	8
CCA6.1	VP4	Black-headed gull	BH	13
CCA6.1	VP4	Black-tailed godwit	BW	2
CCA6.1	VP4	Cormorant	CA	7
CCA6.1	VP4	Common gull	CM	3
CCA6.1	VP4	Curlew	CU	10
CCA6.1	VP4	Dunlin	DN	6
CCA6.1	VP4	Little egret	ET	1
CCA6.1	VP4	Great black-backed gull	GB	2

CCA6.1	VP4	Greenshank	GK	2
CCA6.1	VP4	Grey plover	GV	2
CCA6.1	VP4	Grey heron	H.	2
CCA6.1	VP4	Herring gull	HG	7
CCA6.1	VP4	Little grebe	LG	4
CCA6.1	VP4	Little gull	LU	2
CCA6.1	VP4	Mallard	MA	3
CCA6.1	VP4	Meadow pipit	MP	4
CCA6.1	VP4	Mute swan	MS	2
CCA6.1	VP4	Oystercatcher	OC	9
CCA6.1	VP4	Razorbill	RA	10
CCA6.1	VP4	Red-throated diver	RH	3
CCA6.1	VP4	Redshank	RK	1
CCA6.1	VP4	Ringed plover	RP	1
CCA6.1	VP4	Shag	SA	4
CCA6.1	VP4	Shoveler	SV	2
CCA6.1	VP4	Teal	T.	10
CCA6.1	VP4	Turnstone	TT	3
CCA6.1	VP4	Black Guillemot	TY	1
CCA6.1	VP4	Wigeon	WN	18
CCA6.1	VP4	Whooper swan	WS	6
CCA6.1	VP5	Black-headed gull	BH	27
CCA6.1	VP5	Cormorant	CA	5
CCA6.1	VP5	Common gull	CM	3
CCA6.1	VP5	Dunlin	DN	4
CCA6.1	VP5	Great black-backed gull	GB	1
CCA6.1	VP5	Greenshank	GK	1
CCA6.1	VP5	Goldfinch	GO	100+
CCA6.1	VP5	Golden plover	GP	16
CCA6.1	VP5	Guillemot	GU	1
CCA6.1	VP5	Gannet	GX	1
CCA6.1	VP5	Herring gull	HG	6
CCA6.1	VP5	Long-tailed tit	LT	10
CCA6.1	VP5	Merlin	ML	1
CCA6.1	VP5	Mediterranean gull	MU	1
CCA6.1	VP5	Oystercatcher	OC	1
CCA6.1	VP5	Razorbill	RA	17

CCA6.1	VP5	Red-throated diver	RH	4
CCA6.1	VP5	Shag	SA	4
CCA6.1	VP5	Starling	SG	50
CCA6.1	VP5	Teal	T.	2
CCA6.1	VP5	Sandwich Tern	TE	2
CCA6.2	VP1	Black-headed gull	BH	21
CCA6.2	VP1	Cormorant	CA	5
CCA6.2	VP1	Curlew	CU	6
CCA6.2	VP1	Dunlin	DN	15
CCA6.2	VP1	Great black-backed gull	GB	3
CCA6.2	VP1	Gannet	GX	2
CCA6.2	VP1	Herring gull	HG	16
CCA6.2	VP1	Shelduck	SU	5
CCA6.2	VP2	Black-headed gull	BH	235
CCA6.2	VP2	Cormorant	CA	1
CCA6.2	VP2	Common gull	CM	2
CCA6.2	VP2	Common scoter	CX	6
CCA6.2	VP2	Great black-backed gull	GB	2
CCA6.2	VP2	Guillemot	GU	1
CCA6.2	VP2	Gannet	GX	2
CCA6.2	VP2	Grey heron	H.	1
CCA6.2	VP2	Herring gull	HG	2
CCA6.2	VP2	Lesser black-backed gull	LB	1
CCA6.2	VP2	Linnet	LI	43
CCA6.2	VP2	Mallard	MA	2
CCA6.2	VP2	Mute swan	MS	2
CCA6.2	VP2	Mediterranean gull	MU	1
CCA6.2	VP2	Oystercatcher	OC	2
CCA6.2	VP2	Razorbill	RA	3
CCA6.2	VP2	Red-throated diver	RH	1
CCA6.2	VP2	Shag	SA	3
CCA6.2	VP4	Black-headed gull	BH	3
CCA6.2	VP4	Gannet	GX	1
CCA6.2	VP4	Meadow Pipit	MP	6
CCA6.2	VP4	Stonechat	SC	2

November wintering bird survey results. Species in bold indicate a QI of a European Site within the ZoI

Survey area	Vantage Point	Species	Species code	Peak Count
CCA1	VP1	Brent goose	BG	71
CCA1	VP1	Black-headed gull	BH	175
CCA1	VP1	Black-tailed godwit	BW	10
CCA1	VP1	Cormorant	CA	1
CCA1	VP1	Curlew	CU	50
CCA1	VP1	Dunlin	DN	300
CCA1	VP1	Little egret	ET	5
CCA1	VP1	Great black-backed gull	GB	6
CCA1	VP1	Great crested grebe	GG	36
CCA1	VP1	Greenshank	GK	15
CCA1	VP1	Grey heron	H.	1
CCA1	VP1	Herring gull	HG	250
CCA1	VP1	Knot	KN	2
CCA1	VP1	Lapwing	L.	12
CCA1	VP1	Oystercatcher	OC	600
CCA1	VP1	Redshank	RK	207
CCA1	VP1	Ringed plover	RP	8
CCA1	VP1	Shelduck	SU	3
CCA1	VP1	Teal	T.	73
CCA1	VP2	Black-headed gull	BH	60
CCA1	VP2	Cormorant	CA	1
CCA1	VP2	Dunlin	DN	500
CCA1	VP2	Little egret	ET	1
CCA1	VP2	Great black-backed gull	GB	1
CCA1	VP2	Great crested grebe	GG	3
CCA1	VP2	Herring gull	HG	30
CCA1	VP2	Ringed plover	RP	30
CCA1	VP2	Mediterranean gull	MU	40
CCA1	VP2	Oystercatcher	OC	1
CCA1	VP2	Red-throated diver	RH	1
CCA1	VP2	Red-breasted merganser	RM	1
CCA1	VP2	Shag	SA	1
CCA1	VP2	Turnstone	TT	25

CCA2-3	VP1	Black-headed gull	BH	56
CCA2-3	VP1	Cormorant	CA	1
CCA2-3	VP1	Great black-backed gull	GB	2
CCA2-3	VP1	Grey wagtail	GL	1
CCA2-3	VP1	Guillemot	GU	1
CCA2-3	VP1	Grey heron	H.	1
CCA2-3	VP1	Herring gull	HG	50
CCA2-3	VP1	Shag	SA	3
CCA2-3	VP1	Sparrowhawk	SH	1
CCA5	VP1	Black-headed gull	BH	8
CCA5	VP1	Black-throated diver	BV	1
CCA5	VP1	Cormorant	CA	110
CCA5	VP1	Common gull	CM	13
CCA5	VP1	Great black-backed gull	GB	3
CCA5	VP1	Greylag goose	GJ	5
CCA5	VP1	Gannet	GX	1
CCA5	VP1	Herring gull	HG	90
CCA5	VP1	Razorbill	RA	1
CCA5	VP1	Red-throated diver	RH	5
CCA5	VP1	Shag	SA	8
CCA5	VP1	Whooper swan	WS	2
CCA6.1	VP1	Brent goose	BG	2
CCA6.1	VP1	Black-headed gull	BH	71
CCA6.1	VP1	Black-throated diver	BV	3
CCA6.1	VP1	Cormorant	CA	36
CCA6.1	VP1	Common gull	CM	19
CCA6.1	VP1	Common scoter	CX	25
CCA6.1	VP1	Dunlin	DN	4
CCA6.1	VP1	Great black-backed gull	GB	3
CCA6.1	VP1	Herring gull	HG	46
CCA6.1	VP1	Kestrel	K.	1
CCA6.1	VP1	Mediterranean gull	MU	1
CCA6.1	VP1	Oystercatcher	OC	103
CCA6.1	VP1	Razorbill	RA	7
CCA6.1	VP1	Red-throated diver	RH	167
CCA6.1	VP1	Ringed plover	RP	2
CCA6.1	VP1	Shag	SA	4
CCA6.1	VP1	Black Guillemot	TY	1

CCA6.1	VP1	White-fronted goose	WG	1
CCA6.1	VP2	Black-headed gull	BH	30
CCA6.1	VP2	Black-throated diver	BV	1
CCA6.1	VP2	Cormorant	CA	3
CCA6.1	VP2	Dunlin	DN	3
CCA6.1	VP2	Great black-backed gull	GB	2
CCA6.1	VP2	Grey heron	H.	3
CCA6.1	VP2	Herring gull	HG	6
CCA6.1	VP2	Lapwing	L.	100
CCA6.1	VP2	Mallard	MA	6
CCA6.1	VP2	Oystercatcher	OC	60
CCA6.1	VP2	Peregrine	PE	1
CCA6.1	VP2	Red-throated diver	RH	29
CCA6.1	VP2	Shag	SA	4
CCA6.1	VP2	Starling	SG	300
CCA6.1	VP2	Shelduck	SU	1
CCA6.1	VP3	Black-headed gull	BH	60
CCA6.1	VP3	Cormorant	CA	6
CCA6.1	VP3	Curlew	CU	100
CCA6.1	VP3	Dunlin	DN	3
CCA6.1	VP3	Little egret	ET	3
CCA6.1	VP3	Gadwall	GA	1
CCA6.1	VP3	Great black-backed gull	GB	2
CCA6.1	VP3	Greylag goose	GJ	27
CCA6.1	VP3	Greenshank	GK	2
CCA6.1	VP3	Grey plover	GV	2
CCA6.1	VP3	Gannet	GX	3
CCA6.1	VP3	Herring gull	HG	2
CCA6.1	VP3	Lapwing	L.	108
CCA6.1	VP3	Little grebe	LG	1
CCA6.1	VP3	Mute swan	MS	2
CCA6.1	VP3	Pink-footed goose	PG	2
CCA6.1	VP3	Red-throated diver	RH	13
CCA6.1	VP3	Redshank	RK	24
CCA6.1	VP3	Shag	SA	1
CCA6.1	VP3	Starling	SG	20
CCA6.1	VP3	Shelduck	SU	1
CCA6.1	VP3	Shoveler	SV	8

CCA6.1	VP3	Teal	T.	10
CCA6.1	VP3	Wigeon	WN	298
CCA6.1	VP3	Whooper swan	WS	37
CCA6.1	VP4	Brent goose	BG	7
CCA6.1	VP4	Black-headed gull	BH	121
CCA6.1	VP4	Cormorant	CA	5
CCA6.1	VP4	Common gull	CM	1
CCA6.1	VP4	Curlew	CU	2
CCA6.1	VP4	Dunlin	DN	1
CCA6.1	VP4	Little egret	ET	2
CCA6.1	VP4	Great black-backed gull	GB	4
CCA6.1	VP4	Greenshank	GK	2
CCA6.1	VP4	Grey heron	H.	3
CCA6.1	VP4	Herring gull	HG	10
CCA6.1	VP4	Little grebe	LG	1
CCA6.1	VP4	Moorhen	MH	1
CCA6.1	VP4	Mediterranean gull	MU	2
CCA6.1	VP4	Oystercatcher	OC	2
CCA6.1	VP4	Razorbill	RA	6
CCA6.1	VP4	Red-throated diver	RH	22
CCA6.1	VP4	Ringed plover	RP	6
CCA6.1	VP4	Shag	SA	6
CCA6.1	VP4	Shelduck	SU	2
CCA6.1	VP4	Teal	T.	6
CCA6.1	VP4	Wigeon	WN	178
CCA6.1	VP5	Black-headed gull	BH	1
CCA6.1	VP5	Cormorant	CA	3
CCA6.1	VP5	Common gull	CM	4
CCA6.1	VP5	Curlew	CU	2
CCA6.1	VP5	Common scoter	CX	3
CCA6.1	VP5	Little egret	ET	1
CCA6.1	VP5	Great black-backed gull	GB	1
CCA6.1	VP5	Guillemot	GU	1
CCA6.1	VP5	Grey heron	H.	1
CCA6.1	VP5	Herring gull	HG	30
CCA6.1	VP5	Kestrel	K.	1
CCA6.1	VP5	Red kite	KT	1
CCA6.1	VP5	Linnet	LI	7

CCA6.1	VP5	Little gull	LU	1
CCA6.1	VP5	Mallard	MA	2
CCA6.1	VP5	Oystercatcher	OC	3
CCA6.1	VP5	Razorbill	RA	7
CCA6.1	VP5	Red-throated diver	RH	16
CCA6.1	VP5	Redshank	RK	3
CCA6.1	VP5	Shag	SA	11
CCA6.1	VP5	Shelduck	SV	10
CCA6.1	VP5	Teal	T.	235
CCA6.1	VP5	Wigeon	WN	137
CCA6.2	VP1	Black-headed gull	BH	20
CCA6.2	VP1	Black-tailed godwit	BW	4
CCA6.2	VP1	Cormorant	CA	1
CCA6.2	VP1	Curlew	CU	15
CCA6.2	VP1	Dunlin	DN	1
CCA6.2	VP1	Great black-backed gull	GB	2
CCA6.2	VP1	Guillemot	GU	1
CCA6.2	VP1	Gannet	GX	1
CCA6.2	VP1	Herring gull	HG	3
CCA6.2	VP1	Red kite	KT	1
CCA6.2	VP1	Lapwing	L.	5
CCA6.2	VP1	Oystercatcher	OC	3
CCA6.2	VP1	Razorbill	RA	1
CCA6.2	VP1	Red-throated diver	RH	40
CCA6.2	VP1	Redshank	RK	1
CCA6.2	VP1	Shag	SA	3
CCA6.2	VP1	Shelduck	SU	3
CCA6.2	VP1	Shoveler	SV	25
CCA6.2	VP1	Teal	T.	30
CCA6.2	VP1	Wigeon	WN	90
CCA6.2	VP2	Black-headed gull	BH	20
CCA6.2	VP2	Black-tailed godwit	BW	40
CCA6.2	VP2	Cormorant	CA	1
CCA6.2	VP2	Little egret	ET	2
CCA6.2	VP2	Great black-backed gull	GB	4
CCA6.2	VP2	Great crested grebe	GG	1
CCA6.2	VP2	Herring gull	HG	5
CCA6.2	VP2	Linnet	LI	20

CCA6.2	VP2	Mallard	MA	3
CCA6.2	VP2	Great northern diver	ND	1
CCA6.2	VP2	Oystercatcher	OC	3
CCA6.2	VP2	Red-throated diver	RH	3
CCA6.2	VP2	Shag	SA	2
CCA6.2	VP2	Turnstone	TT	4
CCA6.2	VP3	Black-headed gull	BH	18
CCA6.2	VP3	Curlew	CU	100
CCA6.2	VP3	Great black-backed gull	GB	2
CCA6.2	VP3	Greylag goose	GJ	41
CCA6.2	VP3	Greenshank	GK	1
CCA6.2	VP3	Gannet	GX	1
CCA6.2	VP3	Lapwing	L.	60
CCA6.2	VP3	Little grebe	LG	2
CCA6.2	VP3	Red-throated diver	RH	6
CCA6.2	VP3	Redshank	RK	2
CCA6.2	VP3	Shag	SA	1
CCA6.2	VP3	Starling	SG	40
CCA6.2	VP3	Shelduck	SV	3
CCA6.2	VP3	Teal	T.	8
CCA6.2	VP3	Wigeon	WN	298
CCA6.2	VP3	Whooper swan	WS	23
CCA6.2	VP4	Black-headed gull	BH	200
CCA6.2	VP4	Black-tailed godwit	BW	20
CCA6.2	VP4	Cormorant	CA	1
CCA6.2	VP4	Common gull	CM	20
CCA6.2	VP4	Curlew	CU	10
CCA6.2	VP4	Dunlin	DN	8
CCA6.2	VP4	Little egret	ET	3
CCA6.2	VP4	Great black-backed gull	GB	5
CCA6.2	VP4	Greenshank	GK	2
CCA6.2	VP4	Golden plover	GP	60
CCA6.2	VP4	Herring gull	HG	30
CCA6.2	VP4	Kingfisher	KF	1
CCA6.2	VP4	Red kite	KT	2
CCA6.2	VP4	Little grebe	LG	30
CCA6.2	VP4	Mute swan	MS	27
CCA6.2	VP4	Mediterranean gull	MU	2

CCA6.2	VP4	Great northern diver	ND	1
CCA6.2	VP4	Oystercatcher	OC	1
CCA6.2	VP4	Redshank	RK	50
CCA6.2	VP4	Sparrowhawk	SH	1
CCA6.2	VP4	Sand Martin	SM	3
CCA6.2	VP4	Shoveler	SV	8
CCA6.2	VP4	Water rail	WA	1
CCA6.2	VP4	Wigeon	WN	26

December wintering bird survey results. Species in bold indicate a QI of a European Site within the ZoI

Survey area	Vantage Point	Species	Species code	Peak Count
CCA1	VP1	Bar-tailed godwit	BA	260
CCA1	VP1	Brent goose	BG	274
CCA1	VP1	Black-headed gull	BH	600
CCA1	VP1	Black-tailed godwit	BW	87
CCA1	VP1	Common Gull	CM	50
CCA1	VP1	Curlew	CU	99
CCA1	VP1	Dunlin	DN	650
CCA1	VP1	Little egret	ET	3
CCA1	VP1	Great black-backed gull	GB	3
CCA1	VP1	Great crested grebe	GG	9
CCA1	VP1	Greenshank	GK	9
CCA1	VP1	Golden plover	GP	1
CCA1	VP1	Grey heron	H.	5
CCA1	VP1	Herring gull	HG	100
CCA1	VP1	Knot	KN	150
CCA1	VP1	Lesser black-backed gull	LB	1
CCA1	VP1	Mallard	MA	20
CCA1	VP1	Moorhen	MH	3
CCA1	VP1	Oystercatcher	OC	1400
CCA1	VP1	Redshank	RK	335
CCA1	VP1	Ringed plover	RP	120
CCA1	VP1	Sanderling	SS	13
CCA1	VP1	Shelduck	SU	1
CCA1	VP1	Teal	T.	100
CCA1	VP1	Turnstone	TT	8

CCA1	VP2	Arctic skua	AC	4
CCA1	VP2	Black-headed gull	BH	30
CCA1	VP2	Dunlin	DN	2
CCA1	VP2	Little egret	ET	1
CCA1	VP2	Great black-backed gull	GB	1
CCA1	VP2	Herring gull	HG	10
CCA1	VP2	Mediterranean gull	MU	2
CCA1	VP2	Oystercatcher	OC	2
CCA1	VP2	Redshank	RK	1
CCA1	VP2	Ringed plover	RP	1
CCA1	VP2	Turnstone	TT	10
CCA2-3	VP1	Black-headed gull	BH	2
CCA2-3	VP1	Common Gull	CM	1
CCA2-3	VP1	Great black-backed gull	GB	2
CCA2-3	VP1	Herring gull	HG	20
CCA2-3	VP1	Shag	SA	12
CCA5	VP1	Brent goose	BG	20
CCA5	VP1	Black-headed gull	BH	23
CCA5	VP1	Cormorant	CA	24
CCA5	VP1	Common Gull	CM	4
CCA5	VP1	Great black-backed gull	GB	5
CCA5	VP1	Herring gull	HG	11
CCA5	VP1	Oystercatcher	OC	3
CCA5	VP1	Razorbill	RA	1
CCA5	VP1	Red-throated diver	RH	1
CCA5	VP1	Shag	SA	1
CCA5	VP1	Whooper swan	WS	1
CCA6.1	VP1	Brent goose	BG	19
CCA6.1	VP1	Black-headed gull	BH	52
CCA6.1	VP1	Black-throated diver	BV	1
CCA6.1	VP1	Cormorant	CA	2
CCA6.1	VP1	Common Gull	CM	1
CCA6.1	VP1	Great black-backed gull	GB	3
CCA6.1	VP1	Gannet	GX	5
CCA6.1	VP1	Herring gull	HG	19

CCA6.1	VP1	Oystercatcher	OC	24
CCA6.1	VP1	Razorbill	RA	1
CCA6.1	VP1	Red-throated diver	RH	5
CCA6.1	VP1	Redshank	RK	3
CCA6.1	VP1	Shag	SA	1
CCA6.1	VP2	Black-headed gull	BH	28
CCA6.1	VP2	Curlew	CU	5
CCA6.1	VP2	Little egret	ET	1
CCA6.1	VP2	Great black-backed gull	GB	2
CCA6.1	VP2	Guillemot	GU	1
CCA6.1	VP2	Gannet	GX	2
CCA6.1	VP2	Grey heron	H.	3
CCA6.1	VP2	Herring gull	HG	5
CCA6.1	VP2	Oystercatcher	OC	60
CCA6.1	VP2	Red-throated diver	RH	24
CCA6.1	VP2	Redshank	RK	1
CCA6.1	VP2	Shag	SA	11
CCA6.1	VP2	Stonechat	SC	2
CCA6.1	VP2	Teal	T.	30
CCA6.1	VP2	Wigeon	WN	300
CCA6.1	VP3	Brent goose	BG	32
CCA6.1	VP3	Black-headed gull	BH	5
CCA6.1	VP3	Cormorant	CA	6
CCA6.1	VP3	Curlew	CU	40
CCA6.1	VP3	Dunlin	DN	8
CCA6.1	VP3	Little egret	ET	1
CCA6.1	VP3	Great black-backed gull	GB	3
CCA6.1	VP3	Greylag goose	GJ	75
CCA6.1	VP3	Greenshank	GK	2
CCA6.1	VP3	Guillemot	GU	4
CCA6.1	VP3	Grey heron	H.	1
CCA6.1	VP3	Herring gull	HG	3
CCA6.1	VP3	Lapwing	L.	200
CCA6.1	VP3	Little grebe	LG	3
CCA6.1	VP3	Mallard	MA	8
CCA6.1	VP3	Great northern diver	ND	1

CCA6.1	VP3	Oystercatcher	OC	1
CCA6.1	VP3	Pink-footed goose	PG	2
CCA6.1	VP3	Red-throated diver	RH	18
CCA6.1	VP3	Redshank	RK	5
CCA6.1	VP3	Shag	SA	33
CCA6.1	VP3	Shelduck	SU	4
CCA6.1	VP3	Shoveler	SV	14
CCA6.1	VP3	Teal	T.	21
CCA6.1	VP3	Wigeon	WN	450
CCA6.1	VP3	Whooper swan	WS	50
CCA6.1	VP4	Brent goose	BG	5
CCA6.1	VP4	Black-headed gull	BH	99
CCA6.1	VP4	Black-tailed godwit	BW	55
CCA6.1	VP4	Cormorant	CA	31
CCA6.1	VP4	Common Gull	CM	1
CCA6.1	VP4	Curlew	CU	50
CCA6.1	VP4	Dunlin	DN	60
CCA6.1	VP4	Little egret	ET	2
CCA6.1	VP4	Great black-backed gull	GB	3
CCA6.1	VP4	Greylag goose	GJ	50
CCA6.1	VP4	Gannet	GX	1
CCA6.1	VP4	Grey heron	H.	1
CCA6.1	VP4	Herring gull	HG	9
CCA6.1	VP4	Lapwing	L.	7
CCA6.1	VP4	Little grebe	LG	2
CCA6.1	VP4	Mallard	MA	5
CCA6.1	VP4	Moorhen	MH	1
CCA6.1	VP4	Mute swan	MS	2
CCA6.1	VP4	Oystercatcher	OC	125
CCA6.1	VP4	Red-throated diver	RH	103
CCA6.1	VP4	Redshank	RK	2
CCA6.1	VP4	Ringed plover	RP	1
CCA6.1	VP4	Shag	SA	1
CCA6.1	VP4	Teal	T.	4
CCA6.1	VP4	Wigeon	WN	24
CCA6.1	VP4	Whooper swan	WS	2
CCA6.1	VP5	Black-headed gull	BH	2

CCA6.1	VP5	Buzzard	BZ	1
CCA6.1	VP5	Cormorant	CA	2
CCA6.1	VP5	Common Gull	CM	2
CCA6.1	VP5	Curlew	CU	1
CCA6.1	VP5	Little egret	ET	2
CCA6.1	VP5	Great black-backed gull	GB	2
CCA6.1	VP5	Grey heron	H.	1
CCA6.1	VP5	Herring gull	HG	1
CCA6.1	VP5	Kestrel	K.	1
CCA6.1	VP5	Red kite	KT	1
CCA6.1	VP5	Lapwing	L.	200
CCA6.1	VP5	Mallard	MA	3
CCA6.1	VP5	Mute swan	MS	2
CCA6.1	VP5	Oystercatcher	OC	1
CCA6.1	VP5	Razorbill	RA	1
CCA6.1	VP5	Red-throated diver	RH	24
CCA6.1	VP5	Redshank	RK	3
CCA6.1	VP5	Shag	SA	2
CCA6.1	VP5	Wigeon	WN	150
CCA6.2	VP1	Brent goose	BG	4
CCA6.2	VP1	Black-headed gull	BH	1
CCA6.2	VP1	Black-tailed godwit	BW	1
CCA6.2	VP1	Common Gull	CM	1
CCA6.2	VP1	Great black-backed gull	GB	3
CCA6.2	VP1	Great crested grebe	GG	1
CCA6.2	VP1	Guillemot	GU	2
CCA6.2	VP1	Herring gull	HG	4
CCA6.2	VP1	Mallard	MA	9
CCA6.2	VP1	Meadow pipit	MP	1
CCA6.2	VP1	Oystercatcher	OC	1
CCA6.2	VP1	Razorbill	RA	1
CCA6.2	VP1	Red-throated diver	RH	28
CCA6.2	VP1	Redshank	RK	1
CCA6.2	VP1	Shag	SA	3
CCA6.2	VP1	Shoveler	SV	25
CCA6.2	VP1	Teal	T.	25

CCA6.2	VP1	Turnstone	TT	1
CCA6.2	VP1	Wigeon	WN	4
CCA6.2	VP2	Black-headed gull	BH	1
CCA6.2	VP2	Common Gull	CM	3
CCA6.2	VP2	Curlew	CU	1
CCA6.2	VP2	Great black-backed gull	GB	3
CCA6.2	VP2	Guillemot	GU	1
CCA6.2	VP2	Herring gull	HG	18
CCA6.2	VP2	Red kite	KT	1
CCA6.2	VP2	Mallard	MA	3
CCA6.2	VP2	Great northern diver	ND	2
CCA6.2	VP2	Oystercatcher	OC	1
CCA6.2	VP2	Raven	RN	2
CCA6.2	VP2	Shag	SA	3
CCA6.2	VP2	Teal	T.	1
CCA6.2	VP2	Turnstone	TT	1
CCA6.2	VP4	Black-headed gull	BH	70
CCA6.2	VP4	Black-tailed godwit	BW	40
CCA6.2	VP4	Cormorant	CA	1
CCA6.2	VP4	Common Gull	CM	9
CCA6.2	VP4	Curlew	CU	12
CCA6.2	VP4	Dunlin	DN	15
CCA6.2	VP4	Little egret	ET	2
CCA6.2	VP4	Great black-backed gull	GB	17
CCA6.2	VP4	Greenshank	GK	2
CCA6.2	VP4	Grey plover	GV	1
CCA6.2	VP4	Grey heron	H.	1
CCA6.2	VP4	Herring gull	HG	35
CCA6.2	VP4	Lapwing	L.	29
CCA6.2	VP4	Little grebe	LG	12
CCA6.2	VP4	Mallard	MA	37
CCA6.2	VP4	Mute swan	MS	1
CCA6.2	VP4	Redshank	RK	8
CCA6.2	VP4	Ringed plover	RP	1
CCA6.2	VP4	Teal	T.	29
CCA6.2	VP4	Turnstone	TT	1

CCA6.2	VP4	Wigeon	WN	30

January wintering bird survey results. Species in bold indicate a QI of a European Site within the ZoI

Survey area	Vantage Point	Species	Species code	Peak Count
CCA1	VP1	Bar-tailed godwit	BA	2000
CCA1	VP1	Brent goose	BG	200
CCA1	VP1	Black-headed gull	BH	1000
CCA1	VP1	Black-tailed godwit	BW	200
CCA1	VP1	Common gull	CM	100
CCA1	VP1	Curlew	CU	33
CCA1	VP1	Dunlin	DN	1500
CCA1	VP1	Little egret	ET	2
CCA1	VP1	Great black-backed gull	GB	5
CCA1	VP1	Greenshank	GK	9
CCA1	VP1	Golden plover	GP	4
CCA1	VP1	Grey plover	GV	8
CCA1	VP1	Herring gull	HG	100
CCA1	VP1	Knot	KN	4000
CCA1	VP1	Mallard	MA	6
CCA1	VP1	Oystercatcher	OC	800
CCA1	VP1	Redshank	RK	250
CCA1	VP1	Ringed plover	RP	20
CCA1	VP1	Snipe	SN	1
CCA1	VP1	Sanderling	SS	30
CCA1	VP1	Shelduck	SU	3
CCA1	VP1	Teal	T.	115
CCA1	VP2	Brent goose	BG	3
CCA1	VP2	Black-headed gull	BH	25
CCA1	VP2	Cormorant	CA	1
CCA1	VP2	Common gull	CM	5
CCA1	VP2	Common scoter	CX	22
CCA1	VP2	Dunlin	DN	60
CCA1	VP2	Great black-backed gull	GB	3
CCA1	VP2	Great crested grebe	GG	2
CCA1	VP2	Herring gull	HG	15
CCA1	VP2	Lesser black-backed gull	LB	1
CCA1	VP2	Mallard	MA	2

CCA1	VP2	Mediterranean gull	MU	4
CCA1	VP2	Oystercatcher	OC	240
CCA1	VP2	Ringed plover	RP	2
CCA1	VP2	Turnstone	TT	12
CCA2-3	VP1	Black-headed gull	BH	26
CCA2-3	VP1	Cormorant	CA	1
CCA2-3	VP1	Great black-backed gull	GB	3
CCA2-3	VP1	Herring gull	HG	7
CCA2-3	VP1	Mediterranean gull	MU	1
CCA2-3	VP1	Shag	SA	6
CCA5	VP1	Brent goose	BG	9
CCA5	VP1	Black-headed gull	BH	236
CCA5	VP1	Cormorant	CA	86
CCA5	VP1	Great black-backed gull	GB	1
CCA5	VP1	Herring gull	HG	29
CCA5	VP1	Red-throated diver	RH	1
CCA5	VP1	Ringed plover	RP	15
CCA5	VP1	Shag	SA	1
CCA6.1	VP1	Brent goose	BG	45
CCA6.1	VP1	Black-headed gull	BH	83
CCA6.1	VP1	Cormorant	CA	3
CCA6.1	VP1	Great black-backed gull	GB	1
CCA6.1	VP1	Guillemot	GU	1
CCA6.1	VP1	Herring gull	HG	14
CCA6.1	VP1	Mute swan	MS	2
CCA6.1	VP1	Oystercatcher	OC	68
CCA6.1	VP1	Razorbill	RA	1
CCA6.1	VP1	Red-throated diver	RH	2
CCA6.1	VP1	Redshank	RK	4
CCA6.1	VP1	Ringed plover	RP	12
CCA6.1	VP1	Shag	SA	4
CCA6.1	VP1	Turnstone	TT	6
CCA6.1	VP1	Wigeon	WN	4
CCA6.1	VP2	Black-headed gull	BH	3
CCA6.1	VP2	Cormorant	CA	2
CCA6.1	VP2	Curlew	CU	140
CCA6.1	VP2	Great black-backed gull	GB	1
CCA6.1	VP2	Gannet	GX	3

CCA6.1	VP2	Grey heron	H.	2
CCA6.1	VP2	Herring gull	HG	6
CCA6.1	VP2	Kittiwake	KI	1
CCA6.1	VP2	Mallard	MA	6
CCA6.1	VP2	Mute swan	MS	2
CCA6.1	VP2	Great northern diver	ND	1
CCA6.1	VP2	Oystercatcher	OC	1
CCA6.1	VP2	Razorbill	RA	1
CCA6.1	VP2	Red-throated diver	RH	205
CCA6.1	VP2	Shag	SA	80
CCA6.1	VP2	Teal	T.	35
CCA6.1	VP2	Wigeon	WN	9
CCA6.1	VP3	Brent goose	BG	50
CCA6.1	VP3	Black-headed gull	BH	9
CCA6.1	VP3	Cormorant	CA	8
CCA6.1	VP3	Curlew	CU	70
CCA6.1	VP3	Little egret	ET	1
CCA6.1	VP3	Great black-backed gull	GB	5
CCA6.1	VP3	Greylag goose	GJ	17
CCA6.1	VP3	Gannet	GX	2
CCA6.1	VP3	Herring gull	HG	6
CCA6.1	VP3	Kittiwake	KI	1
CCA6.1	VP3	Red kite	KT	1
CCA6.1	VP3	Lapwing	L.	500
CCA6.1	VP3	Little grebe	LG	1
CCA6.1	VP3	Mallard	MA	3
CCA6.1	VP3	Mute swan	MS	2
CCA6.1	VP3	Great northern diver	ND	1
CCA6.1	VP3	Oystercatcher	OC	2
CCA6.1	VP3	Razorbill	RA	1
CCA6.1	VP3	Red-throated diver	RH	5
CCA6.1	VP3	Ringed plover	RP	1
CCA6.1	VP3	Shag	SA	5
CCA6.1	VP3	Sparrowhawk	SH	1
CCA6.1	VP3	Shoveler	SV	4
CCA6.1	VP3	Teal	T.	22
CCA6.1	VP3	Wigeon	WN	1000
CCA6.1	VP3	Whooper swan	WS	9

CCA6.1	VP4	Brent goose	BG	46
CCA6.1	VP4	Black-headed gull	BH	58
CCA6.1	VP4	Black-tailed godwit	BW	10
CCA6.1	VP4	Cormorant	CA	4
CCA6.1	VP4	Common gull	CM	15
CCA6.1	VP4	Curlew	CU	62
CCA6.1	VP4	Dunlin	DN	9
CCA6.1	VP4	Little egret	ET	1
CCA6.1	VP4	Great black-backed gull	GB	1
CCA6.1	VP4	Greylag goose	GJ	110
CCA6.1	VP4	Greenshank	GK	2
CCA6.1	VP4	Grey heron	H.	2
CCA6.1	VP4	Herring gull	HG	14
CCA6.1	VP4	Little grebe	LG	2
CCA6.1	VP4	Mallard	MA	4
CCA6.1	VP4	Oystercatcher	OC	6
CCA6.1	VP4	Razorbill	RA	2
CCA6.1	VP4	Red-throated diver	RH	2
CCA6.1	VP4	Redshank	RK	5
CCA6.1	VP4	Ringed plover	RP	9
CCA6.1	VP4	Shag	SA	11
CCA6.1	VP4	Shelduck	SU	3
CCA6.1	VP4	Shoveler	SV	4
CCA6.1	VP4	Teal	T.	12
CCA6.1	VP4	Wigeon	WN	230
CCA6.1	VP4	Whooper swan	WS	21
CCA6.1	VP5	Cormorant	CA	7
CCA6.1	VP5	Curlew	CU	2
CCA6.1	VP5	Little egret	ET	1
CCA6.1	VP5	Great black-backed gull	GB	3
CCA6.1	VP5	Greylag goose	GJ	150
CCA6.1	VP5	Guillemot	GU	1
CCA6.1	VP5	Grey heron	H.	1
CCA6.1	VP5	Herring gull	HG	23
CCA6.1	VP5	Kestrel	K.	1
CCA6.1	VP5	Mallard	MA	3
CCA6.1	VP5	Oystercatcher	OC	8
CCA6.1	VP5	Razorbill	RA	1

CCA6.1	VP5	Red-throated diver	RH	3
CCA6.1	VP5	Redshank	RK	2
CCA6.1	VP5	Shag	SA	24
CCA6.1	VP5	Snipe	SN	3
CCA6.1	VP5	Shoveler	SV	6
CCA6.1	VP5	Teal	T.	4
CCA6.1	VP5	Wigeon	WN	190
CCA6.2	VP1	Black-headed gull	BH	21
CCA6.2	VP1	Cormorant	CA	7
CCA6.2	VP1	Curlew	CU	8
CCA6.2	VP1	Great black-backed gull	GB	7
CCA6.2	VP1	Gannet	GX	1
CCA6.2	VP1	Herring gull	HG	10
CCA6.2	VP1	Red kite	KT	1
CCA6.2	VP1	Mallard	MA	5
CCA6.2	VP1	Merlin	ML	1
CCA6.2	VP1	Oystercatcher	OC	1
CCA6.2	VP1	Red-throated diver	RH	2
CCA6.2	VP1	Shag	SA	1
CCA6.2	VP1	Sanderling	SS	1
CCA6.2	VP1	Shoveler	SV	52
CCA6.2	VP1	Teal	T.	17
CCA6.2	VP1	Wigeon	WN	440
CCA6.2	VP1	Whooper swan	WS	2
CCA6.2	VP2	Black-headed gull	BH	3
CCA6.2	VP2	Buzzard	BZ	2
CCA6.2	VP2	Cormorant	CA	3
CCA6.2	VP2	Little egret	ET	1
CCA6.2	VP2	Great black-backed gull	GB	1
CCA6.2	VP2	Gannet	GX	1
CCA6.2	VP2	Herring gull	HG	9
CCA6.2	VP2	Red kite	KT	4
CCA6.2	VP2	Mallard	MA	8
CCA6.2	VP2	Peregrine	PE	1
CCA6.2	VP2	Razorbill	RA	1
CCA6.2	VP2	Red-throated diver	RH	3
CCA6.2	VP2	Shag	SA	1
CCA6.2	VP2	Sparrowhawk	SH	1

CCA6.2	VP2	Teal	T.	33
CCA6.2	VP2	Turnstone	TT	3
CCA6.2	VP2	Water rail	WA	1
CCA6.2	VP2	Wigeon	WN	250
CCA6.2	VP4	Black-headed gull	BH	29
CCA6.2	VP4	Cormorant	CA	1
CCA6.2	VP4	Curlew	CU	40
CCA6.2	VP4	Little egret	ET	1
CCA6.2	VP4	Great black-backed gull	GB	8
CCA6.2	VP4	Greenshank	GK	2
CCA6.2	VP4	Grey heron	H.	1
CCA6.2	VP4	Herring gull	HG	8
CCA6.2	VP4	Lapwing	L.	29
CCA6.2	VP4	Little grebe	LG	4
CCA6.2	VP4	Mallard	MA	3
CCA6.2	VP4	Mute swan	MS	2
CCA6.2	VP4	Redshank	RK	5
CCA6.2	VP4	Teal	T.	2
CCA6.2	VP4	Wigeon	WN	19

February wintering bird survey results. Species in bold indicate a QI of a European Site within the ZoI

Survey area	Vantage Point	Species	Species code	Peak Count
CCA1	VP1	Bar-tailed godwit	BA	800
CCA1	VP1	Brent goose	BG	400
CCA1	VP1	Black-headed gull	BH	300
CCA1	VP1	Black-tailed godwit	BW	350
CCA1	VP1	Common gull	CM	30
CCA1	VP1	Curlew	CU	15
CCA1	VP1	Dunlin	DN	10000
CCA1	VP1	Little egret	ET	3
CCA1	VP1	Great black-backed gull	GB	1
CCA1	VP1	Greenshank	GK	14
CCA1	VP1	Grey heron	H.	4
CCA1	VP1	Herring gull	HG	5
CCA1	VP1	Knot	KN	15000
CCA1	VP1	Moorhen	MH	6
CCA1	VP1	Oystercatcher	OC	1500

CCA1	VP1	Redshank	RK	110
CCA1	VP1	Ringed plover	RP	100
CCA1	VP1	Sanderling	SS	30
CCA1	VP1	Shelduck	SU	5
CCA1	VP1	Teal	T.	60
CCA1	VP2	Brent goose	BG	6
CCA1	VP2	Black-headed gull	BH	5
CCA1	VP2	Cormorant	CA	6
CCA1	VP2	Common gull	CM	1
CCA1	VP2	Curlew	CU	2
CCA1	VP2	Great black-backed gull	GB	1
CCA1	VP2	Great crested grebe	GG	1
CCA1	VP2	Herring gull	HG	27
CCA1	VP2	Mallard	MA	4
CCA1	VP2	Mute swan	MS	1
CCA1	VP2	Oystercatcher	OC	4
CCA1	VP2	Redshank	RK	1
CCA1	VP2	Red-breasted merganser	RM	18
CCA1	VP2	Turnstone	TT	19
CCA2-3	VP1	Black-headed gull	BH	1
CCA2-3	VP1	Cormorant	CA	6
CCA2-3	VP1	Great black-backed gull	GB	6
CCA2-3	VP1	Guillemot	GU	100
CCA2-3	VP1	Gannet	GX	1
CCA2-3	VP1	Herring gull	HG	60
CCA2-3	VP1	Kittiwake	KI	1
CCA2-3	VP1	Lesser black-backed gull	LB	1
CCA2-3	VP1	Mediterranean gull	MU	3
CCA2-3	VP1	Great northern diver	ND	1
CCA2-3	VP1	Oystercatcher	OC	18
CCA2-3	VP1	Red-throated diver	RH	1
CCA2-3	VP1	Shag	SA	15
CCA2-3	VP1	Black guillemot	TY	3
CCA5	VP1	Black-headed gull	BH	53
CCA5	VP1	Cormorant	CA	1
CCA5	VP1	Common gull	CM	42
CCA5	VP1	Fulmar	F.	2
CCA5	VP1	Great black-backed gull	GB	1

CCA5	VP1	Guillemot	GU	3
CCA5	VP1	Gannet	GX	7
CCA5	VP1	Herring gull	HG	13
CCA5	VP1	Mute swan	MS	3
CCA5	VP1	Red-throated diver	RH	1
CCA5	VP1	Shag	SA	87
CCA5	VP1	Turnstone	TT	4
CCA5	VP1	Black guillemot	TY	1
CCA6.1	VP1	Brent goose	BG	142
CCA6.1	VP1	Black-headed gull	BH	83
CCA6.1	VP1	Cormorant	CA	5
CCA6.1	VP1	Great black-backed gull	GB	1
CCA6.1	VP1	Guillemot	GU	3
CCA6.1	VP1	Gannet	GX	2
CCA6.1	VP1	Herring gull	HG	10
CCA6.1	VP1	Oystercatcher	OC	40
CCA6.1	VP1	Razorbill	RA	9
CCA6.1	VP1	Red-throated diver	RH	7
CCA6.1	VP1	Ringed plover	RP	10
CCA6.1	VP1	Shag	SA	36
CCA6.1	VP1	Turnstone	TT	8
CCA6.1	VP1	Black guillemot	TY	3
CCA6.1	VP2	Brent goose	BG	35
CCA6.1	VP2	Black-headed gull	BH	500
CCA6.1	VP2	Cormorant	CA	1
CCA6.1	VP2	Common gull	CM	14
CCA6.1	VP2	Curlew	CU	13
CCA6.1	VP2	Great black-backed gull	GB	5
CCA6.1	VP2	Guillemot	GU	3
CCA6.1	VP2	Gannet	GX	1
CCA6.1	VP2	Grey heron	H.	2
CCA6.1	VP2	Herring gull	HG	20
CCA6.1	VP2	Kittiwake	KI	1
CCA6.1	VP2	Mallard	MA	6
CCA6.1	VP2	Mute swan	MS	1
CCA6.1	VP2	Mediterranean gull	MU	2
CCA6.1	VP2	Oystercatcher	OC	6
CCA6.1	VP2	Razorbill	RA	2

CCA6.1	VP2	Red-throated diver	RH	11
CCA6.1	VP2	Shag	SA	20
CCA6.1	VP2	Snipe	SN	1
CCA6.1	VP2	Shelduck	SU	3
CCA6.1	VP2	Teal	T.	20
CCA6.1	VP2	Black guillemot	TY	1
CCA6.1	VP3	Brent goose	BG	54
CCA6.1	VP3	Black-tailed godwit	BW	9
CCA6.1	VP3	Cormorant	CA	4
CCA6.1	VP3	Curlew	CU	36
CCA6.1	VP3	Dunlin	DN	10
CCA6.1	VP3	Little egret	ET	1
CCA6.1	VP3	Great black-backed gull	GB	3
CCA6.1	VP3	Greylag goose	GJ	100
CCA6.1	VP3	Greenshank	GK	1
CCA6.1	VP3	Golden plover	GP	4
CCA6.1	VP3	Gannet	GX	1
CCA6.1	VP3	Herring gull	HG	6
CCA6.1	VP3	Lapwing	L.	1000
CCA6.1	VP3	Little grebe	LG	4
CCA6.1	VP3	Mallard	MA	6
CCA6.1	VP3	Mute swan	MS	1
CCA6.1	VP3	Oystercatcher	OC	2
CCA6.1	VP3	Peregrine	PE	1
CCA6.1	VP3	Razorbill	RA	1
CCA6.1	VP3	Red-throated diver	RH	1
CCA6.1	VP3	Redshank	RK	9
CCA6.1	VP3	Skylark	S.	8
CCA6.1	VP3	Shag	SA	3
CCA6.1	VP3	Snipe	SN	1
CCA6.1	VP3	Shelduck	SU	3
CCA6.1	VP3	Shoveler	SV	17
CCA6.1	VP3	Teal	T.	3
CCA6.1	VP3	Wigeon	WN	2000
CCA6.1	VP3	Whooper swan	WS	35
CCA6.1	VP4	Black-headed gull	BH	60
CCA6.1	VP4	Black-throated diver	BV	1
CCA6.1	VP4	Cormorant	CA	3

CCA6.1	VP4	Common gull	CM	1
CCA6.1	VP4	Curlew	CU	22
CCA6.1	VP4	Little egret	ET	1
CCA6.1	VP4	Great black-backed gull	GB	4
CCA6.1	VP4	Greenshank	GK	1
CCA6.1	VP4	Guillemot	GU	6
CCA6.1	VP4	Grey heron	H.	1
CCA6.1	VP4	Herring gull	HG	46
CCA6.1	VP4	Kestrel	K.	1
CCA6.1	VP4	Red kite	KT	1
CCA6.1	VP4	Lapwing	L.	45
CCA6.1	VP4	Little grebe	LG	2
CCA6.1	VP4	Mallard	MA	2
CCA6.1	VP4	Moorhen	MH	1
CCA6.1	VP4	Merlin	ML	1
CCA6.1	VP4	Mute swan	MS	3
CCA6.1	VP4	Oystercatcher	OC	8
CCA6.1	VP4	Razorbill	RA	4
CCA6.1	VP4	Red-throated diver	RH	6
CCA6.1	VP4	Redshank	RK	5
CCA6.1	VP4	Ringed plover	RP	6
CCA6.1	VP4	Shag	SA	22
CCA6.1	VP4	Stonechat	SC	1
CCA6.1	VP4	Shelduck	SU	2
CCA6.1	VP4	Shoveler	SV	3
CCA6.1	VP4	Teal	T.	2
CCA6.1	VP4	Turnstone	TT	2
CCA6.1	VP4	Wigeon	WN	52
CCA6.1	VP4	Whooper swan	WS	40
CCA6.1	VP5	Brent goose	BG	2
CCA6.1	VP5	Black-headed gull	BH	42
CCA6.1	VP5	Black-tailed godwit	BW	6
CCA6.1	VP5	Buzzard	BZ	1
CCA6.1	VP5	Cormorant	CA	6
CCA6.1	VP5	Curlew	CU	11
CCA6.1	VP5	Little egret	ET	1
CCA6.1	VP5	Great black-backed gull	GB	1
CCA6.1	VP5	Greylag goose	GJ	90

CCA6.1	VP5	Guillemot	GU	2
CCA6.1	VP5	Gannet	GX	1
CCA6.1	VP5	Herring gull	HG	11
CCA6.1	VP5	Kestrel	K.	1
CCA6.1	VP5	Mallard	MA	4
CCA6.1	VP5	Oystercatcher	OC	6
CCA6.1	VP5	Razorbill	RA	5
CCA6.1	VP5	Red-throated diver	RH	2
CCA6.1	VP5	Ringed plover	RP	2
CCA6.1	VP5	Shag	SA	32
CCA6.1	VP5	Shelduck	SU	2
CCA6.1	VP5	Shoveler	SV	32
CCA6.1	VP5	Teal	T.	96
CCA6.1	VP5	Black guillemot	TY	1
CCA6.1	VP5	Water rail	WA	2
CCA6.1	VP5	Wigeon	WN	248
CCA6.2	VP1	Black-headed gull	BH	4
CCA6.2	VP1	Black-tailed godwit	BW	1
CCA6.2	VP1	Buzzard	BZ	1
CCA6.2	VP1	Cormorant	CA	1
CCA6.2	VP1	Curlew	CU	1
CCA6.2	VP1	Little egret	ET	1
CCA6.2	VP1	Great black-backed gull	GB	3
CCA6.2	VP1	Grey heron	H.	1
CCA6.2	VP1	Herring gull	HG	5
CCA6.2	VP1	Mallard	MA	5
CCA6.2	VP1	Moorhen	MH	2
CCA6.2	VP1	Mute swan	MS	2
CCA6.2	VP1	Oystercatcher	OC	1
CCA6.2	VP1	Red-throated diver	RH	2
CCA6.2	VP1	Shag	SA	15
CCA6.2	VP1	Shelduck	SU	2
CCA6.2	VP1	Teal	T.	72
CCA6.2	VP1	Black guillemot	TY	1
CCA6.2	VP1	Water rail	WA	1
CCA6.2	VP1	Wigeon	WN	150
CCA6.2	VP2	Black-headed gull	BH	1
CCA6.2	VP2	Buzzard	BZ	2

CCA6.2	VP2	Cormorant	CA	1
CCA6.2	VP2	Little egret	ET	1
CCA6.2	VP2	Great black-backed gull	GB	2
CCA6.2	VP2	Guillemot	GU	1
CCA6.2	VP2	Grey heron	H.	3
CCA6.2	VP2	Herring gull	HG	3
CCA6.2	VP2	Kestrel	K.	1
CCA6.2	VP2	Mallard	MA	3
CCA6.2	VP2	Oystercatcher	OC	1
CCA6.2	VP2	Razorbill	RA	3
CCA6.2	VP2	Red-throated diver	RH	3
CCA6.2	VP2	Ringed plover	RP	2
CCA6.2	VP2	Shag	SA	8
CCA6.2	VP2	Shelduck	SU	1
CCA6.2	VP2	Turnstone	TT	1
CCA6.2	VP2	Water rail	WA	3
CCA6.2	VP4	Black-headed gull	BH	133
CCA6.2	VP4	Black-tailed godwit	BW	80
CCA6.2	VP4	Buzzard	BZ	3
CCA6.2	VP4	Common gull	CM	4
CCA6.2	VP4	Curlew	CU	25
CCA6.2	VP4	Dunlin	DN	45
CCA6.2	VP4	Little egret	ET	3
CCA6.2	VP4	Great black-backed gull	GB	8
CCA6.2	VP4	Greenshank	GK	2
CCA6.2	VP4	Grey heron	H.	2
CCA6.2	VP4	Herring gull	HG	36
CCA6.2	VP4	Lesser black-backed gull	LB	2
CCA6.2	VP4	Little grebe	LG	4
CCA6.2	VP4	Mallard	MA	11
CCA6.2	VP4	Redshank	RK	37
CCA6.2	VP4	Shelduck	SU	1
CCA6.2	VP4	Teal	T.	22
CCA6.2	VP4	Wigeon	WN	15

March wintering bird survey results. Species in bold indicate a QI of a European Site within the ZoI

Survey area	Vantage Point	Species	Species code	Peak Count
CCA1	VP1	Bar-tailed godwit	BA	10000
CCA1	VP1	Brent goose	BG	84
CCA1	VP1	Black-headed gull	BH	220
CCA1	VP1	Black-tailed godwit	BW	1500
CCA1	VP1	Common gull	CM	20
CCA1	VP1	Curlew	CU	30
CCA1	VP1	Dunlin	DN	30000
CCA1	VP1	Little egret	ET	3
CCA1	VP1	Greenshank	GK	14
CCA1	VP1	Grey plover	GV	50
CCA1	VP1	Grey heron	H.	1
CCA1	VP1	Herring gull	HG	12
CCA1	VP1	Knot	KN	20000
CCA1	VP1	Lesser black-backed gull	LB	1
CCA1	VP1	Mallard	MA	3
CCA1	VP1	Oystercatcher	OC	1000
CCA1	VP1	Redshank	RK	90
CCA1	VP1	Red-breasted merganser	RM	25
CCA1	VP1	Ringed plover	RP	50
CCA1	VP1	Snipe	SN	2
CCA1	VP1	Sanderling	SS	80
CCA1	VP1	Shelduck	SU	2
CCA1	VP1	Teal	T.	55
CCA1	VP2	Brent goose	BG	31
CCA1	VP2	Cormorant	CA	6
CCA1	VP2	Common gull	CM	1
CCA1	VP2	Common scoter	CX	12
CCA1	VP2	Dunlin	DN	9
CCA1	VP2	Little egret	ET	1
CCA1	VP2	Great black-backed gull	GB	3
CCA1	VP2	Great crested grebe	GG	6
CCA1	VP2	Greenshank	GK	5
CCA1	VP2	Gannet	GX	4
CCA1	VP2	Herring gull	HG	11
CCA1	VP2	Mallard	MA	2
CCA1	VP2	Oystercatcher	OC	25

CCA1	VP2	Razorbill	RA	5
CCA1	VP2	Redshank	RK	2
CCA1	VP2	Red-breasted merganser	RM	25
CCA1	VP2	Shelduck	SU	1
CCA1	VP2	Turnstone	TT	11
CCA2-3	VP1	Brent goose	BG	18
CCA2-3	VP1	Black-headed gull	BH	60
CCA2-3	VP1	Cormorant	CA	2
CCA2-3	VP1	Common gull	CM	1
CCA2-3	VP1	Great black-backed gull	GB	2
CCA2-3	VP1	Guillemot	GU	12
CCA2-3	VP1	Gannet	GX	2
CCA2-3	VP1	Herring gull	HG	10
CCA2-3	VP1	Kittiwake	KI	1
CCA2-3	VP1	Mediterranean gull	MU	1
CCA2-3	VP1	Razorbill	RA	4
CCA2-3	VP1	Shag	SA	12
CCA2-3	VP1	Shelduck	SU	2
CCA2-3	VP1	Black guillemot	TY	6
CCA5	VP1	Black-headed gull	BH	33
CCA5	VP1	Cormorant	CA	12
CCA5	VP1	Great black-backed gull	GB	2
CCA5	VP1	Gannet	GX	2
CCA5	VP1	Herring gull	HG	27
CCA5	VP1	Razorbill	RA	5
CCA5	VP1	Shag	SA	10
CCA5	VP1	Black guillemot	TY	1
CCA6.1	VP1	Brent goose	BG	123
CCA6.1	VP1	Black-headed gull	BH	80
CCA6.1	VP1	Cormorant	CA	5
CCA6.1	VP1	Common gull	CM	6
CCA6.1	VP1	Great black-backed gull	GB	6
CCA6.1	VP1	Guillemot	GU	6
CCA6.1	VP1	Gannet	GX	1
CCA6.1	VP1	Grey heron	H.	1
CCA6.1	VP1	Herring gull	HG	64
CCA6.1	VP1	Mute swan	MS	2
CCA6.1	VP1	Oystercatcher	OC	88

CCA6.1	VP1	Red-throated diver	RH	1
CCA6.1	VP1	Shag	SA	24
CCA6.1	VP2	Black-headed gull	BH	4
CCA6.1	VP2	Buzzard	BZ	1
CCA6.1	VP2	Cormorant	CA	6
CCA6.1	VP2	Common gull	CM	4
CCA6.1	VP2	Little egret	ET	1
CCA6.1	VP2	Great black-backed gull	GB	12
CCA6.1	VP2	Guillemot	GU	1
CCA6.1	VP2	Gannet	GX	2
CCA6.1	VP2	Grey heron	H.	1
CCA6.1	VP2	Herring gull	HG	8
CCA6.1	VP2	Red kite	KT	3
CCA6.1	VP2	Meadow pipit	MP	50
CCA6.1	VP2	Mute swan	MS	2
CCA6.1	VP2	Razorbill	RA	2
CCA6.1	VP2	Red-throated diver	RH	2
CCA6.1	VP2	Ringed plover	RP	2
CCA6.1	VP2	Shag	SA	6
CCA6.1	VP2	Shelduck	SU	1
CCA6.1	VP2	Teal	T.	3
CCA6.1	VP2	Turnstone	TT	2
CCA6.1	VP2	Wigeon	WN	7
CCA6.1	VP3	Black-tailed godwit	BW	1
CCA6.1	VP3	Cormorant	CA	14
CCA6.1	VP3	Dunlin	DN	2
CCA6.1	VP3	Little egret	ET	1
CCA6.1	VP3	Great black-backed gull	GB	2
CCA6.1	VP3	Greylag goose	GJ	30
CCA6.1	VP3	Greenshank	GK	1
CCA6.1	VP3	Golden plover	GP	400
CCA6.1	VP3	Grey heron	H.	1
CCA6.1	VP3	Herring gull	HG	3
CCA6.1	VP3	Lapwing	L.	30
CCA6.1	VP3	Little grebe	LG	2
CCA6.1	VP3	Mute swan	MS	3
CCA6.1	VP3	Oystercatcher	OC	1
CCA6.1	VP3	Redshank	RK	3

CCA6.1	VP3	Shelduck	SU	2
CCA6.1	VP3	Wigeon	WN	500
CCA6.1	VP3	Whooper swan	WS	40
CCA6.1	VP4	Black-headed gull	BH	1
CCA6.1	VP4	Cormorant	CA	7
CCA6.1	VP4	Common gull	CM	2
CCA6.1	VP4	Little egret	ET	1
CCA6.1	VP4	Great black-backed gull	GB	16
CCA6.1	VP4	Greylag goose	GJ	22
CCA6.1	VP4	Grey heron	H.	1
CCA6.1	VP4	Herring gull	HG	33
CCA6.1	VP4	Mallard	MA	2
CCA6.1	VP4	Mute swan	MS	3
CCA6.1	VP4	Oystercatcher	OC	9
CCA6.1	VP4	Red-throated diver	RH	1
CCA6.1	VP4	Redshank	RK	2
CCA6.1	VP4	Ringed plover	RP	2
CCA6.1	VP4	Shag	SA	7
CCA6.1	VP4	Snipe	SN	1
CCA6.1	VP4	Wigeon	WN	15
CCA6.1	VP5	Black-headed gull	BH	5
CCA6.1	VP5	Cormorant	CA	2
CCA6.1	VP5	Eider	E.	1
CCA6.1	VP5	Little egret	ET	1
CCA6.1	VP5	Great black-backed gull	GB	39
CCA6.1	VP5	Golden plover	GP	80
CCA6.1	VP5	Guillemot	GU	2
CCA6.1	VP5	Gannet	GX	8
CCA6.1	VP5	Herring gull	HG	9
CCA6.1	VP5	Mallard	MA	2
CCA6.1	VP5	Oystercatcher	OC	20
CCA6.1	VP5	Razorbill	RA	1
CCA6.1	VP5	Ringed plover	RP	2
CCA6.1	VP5	Shag	SA	1
CCA6.1	VP5	Shoveler	SV	2
CCA6.1	VP5	Teal	T.	115
CCA6.1	VP5	Black guillemot	TY	1
CCA6.1	VP5	Wigeon	WN	39

CCA6.2	VP1	Black-headed gull	BH	5
CCA6.2	VP1	Black-tailed godwit	BW	15
CCA6.2	VP1	Cormorant	CA	7
CCA6.2	VP1	Little egret	ET	1
CCA6.2	VP1	Great black-backed gull	GB	90
CCA6.2	VP1	Gannet	GX	8
CCA6.2	VP1	Herring gull	HG	3
CCA6.2	VP1	Lapwing	L.	1
CCA6.2	VP1	Mallard	MA	4
CCA6.2	VP1	Oystercatcher	OC	1
CCA6.2	VP1	Shag	SA	1
CCA6.2	VP1	Teal	T.	3
CCA6.2	VP2	Black-headed gull	BH	1
CCA6.2	VP2	Buzzard	BZ	4
CCA6.2	VP2	Cormorant	CA	2
CCA6.2	VP2	Little egret	ET	2
CCA6.2	VP2	Great black-backed gull	GB	6
CCA6.2	VP2	Grey heron	H.	2
CCA6.2	VP2	Herring gull	HG	10
CCA6.2	VP2	Kestrel	K.	1
CCA6.2	VP2	Red kite	KT	1
CCA6.2	VP2	Mallard	MA	3
CCA6.2	VP2	Ringed plover	RP	3
CCA6.2	VP2	Shag	SA	1
CCA6.2	VP2	Snipe	SN	3
CCA6.2	VP2	Shelduck	SU	1
CCA6.2	VP2	Teal	T.	3
CCA6.2	VP2	Turnstone	TT	9
CCA6.2	VP4	Black-headed gull	BH	24
CCA6.2	VP4	Black-tailed godwit	BW	170
CCA6.2	VP4	Buzzard	BZ	3
CCA6.2	VP4	Cormorant	CA	1
CCA6.2	VP4	Common gull	CM	1
CCA6.2	VP4	Curlew	CU	1
CCA6.2	VP4	Little egret	ET	1
CCA6.2	VP4	Great black-backed gull	GB	6
CCA6.2	VP4	Greenshank	GK	3
CCA6.2	VP4	Grey heron	H.	2

CCA6.2	VP4	Herring gull	HG	32
CCA6.2	VP4	Red kite	KT	1
CCA6.2	VP4	Lesser black-backed gull	LB	6
CCA6.2	VP4	Oystercatcher	OC	2
CCA6.2	VP4	Redshank	RK	30
CCA6.2	VP4	Shelduck	SU	4
CCA6.2	VP4	Wigeon	WN	8

Appendix E. Breeding Bird Survey Results

April breeding bird survey results. Species in bold indicate a QI of a European Site within the ZoI

Licence Area	Vantage Point / Transect	Species	Code	Number of records	Peak Count	Highest Breeding Status
CCA2-3	1	Cormorant	CA	1	9	Probable
CCA2-3	1	Great black-backed gull	GB	3	7	Probable
CCA2-3	1	Grasshopper warbler	GH	1	1	Possible
CCA2-3	1	Herring gull	HG	2	38	Probable
CCA2-3	1	Meadow pipit	MP	1	2	Probable
CCA2-3	1	Oystercatcher	OC	3	6	Probable
CCA2-3	1	Black guillemot	TY	2	8	Possible
CCA2-3	2	Feral pigeon	FP	1	1	Possible
CCA2-3	2	Guillemot	GU	2	1	Possible
CCA2-3	2	Hooded crow	HC	1	1	Possible
CCA2-3	2	Herring gull	HG	3	12	Probable
CCA2-3	2	Lesser black-backed gull	LB	1	6	Probable
CCA2-3	2	Peregrine	PE	1	1	Possible
CCA2-3	2	Shag	SA	1	3	Probable
CCA2-3	2	Shelduck	SU	1	7	Probable
CCA2-3	2	Woodpigeon	WP	1	2	Probable
CCA5	1	Blackbird	B.	6	2	Probable
CCA5	1	Blackcap	BC	1	1	Probable
CCA5	1	Blue tit	BT	1	1	Possible
CCA5	1	Cormorant	CA	5	120	Confirmed
CCA5	1	Dunnock	D.	4	2	Probable
CCA5	1	Fulmar	F.	3	5	Confirmed
CCA5	1	Great black-backed gull	GB	2	2	Possible
CCA5	1	Goldfinch	GO	7	2	Probable
CCA5	1	Great tit	GT	1	1	Probable
CCA5	1	Guillemot	GU	9	50	Probable
CCA5	1	Hooded crow	HC	2	2	Probable
CCA5	1	Herring gull	HG	7	8	Probable
CCA5	1	Meadow pipit	MP	2	1	Probable
CCA5	1	Robin	R.	1	1	Possible
CCA5	1	Razorbill	RA	1	20	Probable
CCA5	1	Shag	SA	2	75	Confirmed

CCA5	1	Stonechat	SC	1	1	Possible
CCA5	1	Starling	SG	2	50	Probable
CCA5	1	Swallow	SL	1	8	Probable
CCA5	1	Sand martin	SM	3	100	Confirmed
CCA5	1	Song thrush	ST	4	2	Probable
CCA5	1	Black guillemot	TY	1	15	Probable
CCA5	1	Woodpigeon	WP	5	2	Probable
CCA5	1	Wren	WR	6	2	Probable
CCA5	1	Willow warbler	WW	1	1	Probable
CCA6.1	1	Little tern	AF	1	2	Probable
CCA6.1	1	Blackbird	B.	1	2	Probable
CCA6.1	1	Common Sandpiper	CS	2	1	Possible
CCA6.1	1	Dunlin	DN	1	2	Possible
CCA6.1	1	Goldfinch	GO	1	1	Possible
CCA6.1	1	Hooded crow	HC	1	1	Possible
CCA6.1	1	House sparrow	HS	1	4	Probable
CCA6.1	1	Linnet	LI	3	4	Probable
CCA6.1	1	Mallard	MA	2	2	Probable
CCA6.1	1	Magpie	MG	1	2	Probable
CCA6.1	1	Meadow pipit	MP	4	2	Probable
CCA6.1	1	Pied wagtail	PW	1	1	Possible
CCA6.1	1	Ringed plover	RP	12	7	Probable
CCA6.1	1	Skylark	S.	1	1	Possible
CCA6.1	1	Stonechat	SC	5	1	Possible
CCA6.1	1	Starling	SG	1	2	Probable
CCA6.1	1	Swallow	SL	1	2	Possible
CCA6.1	1	Sand martin	SM	1	15	Possible
CCA6.1	1	Snipe	SN	2	1	Probable
CCA6.1	1	Song thrush	ST	1	1	Possible
CCA6.1	1	Teal	T.	1	4	Probable
CCA6.1	1	Wheatear	W.	7	2	Possible
CCA6.1	1	Woodpigeon	WP	2	2	Probable
CCA6.1	1	Wren	WR	5	2	Possible
CCA6.1	1	Willow warbler	WW	1	1	Possible
CCA6.2	2	Little tern	AF	5	8	Probable
CCA6.2	2	Blackbird	B.	4	3	Confirmed
CCA6.2	2	Chaffinch	CH	1	1	Possible
CCA6.2	2	Dunlin	DN	1	11	Possible

CCA6.2	2	Great black-backed gull	GB	1	2	Probable
CCA6.2	2	Goldfinch	GO	5	6	Probable
CCA6.2	2	Hooded crow	HC	3	2	Confirmed
CCA6.2	2	Herring gull	HG	2	12	Probable
CCA6.2	2	House sparrow	HS	1	2	Probable
CCA6.2	2	Jackdaw	JD	2	12	Probable
CCA6.2	2	Kestrel	K.	2	1	Possible
CCA6.2	2	Red kite	KT	1	1	Possible
CCA6.2	2	Lapwing	L.	1	31	Probable
CCA6.2	2	Little grebe	LG	1	1	Possible
CCA6.2	2	Linnet	LI	3	14	Probable
CCA6.2	2	Mallard	MA	3	4	Probable
CCA6.2	2	Moorhen	MH	1	1	Possible
CCA6.2	2	Meadow pipit	MP	6	2	Probable
CCA6.2	2	Mute swan	MS	3	3	Possible
CCA6.2	2	Oystercatcher	OC	6	12	Probable
CCA6.2	2	Pheasant	PH	1	1	Possible
CCA6.2	2	Robin	R.	1	1	Possible
CCA6.2	2	Reed bunting	RB	2	1	Possible
CCA6.2	2	Redshank	RK	1	3	Possible
CCA6.2	2	Ringed plover	RP	5	18	Probable
CCA6.2	2	Skylark	S.	4	3	Possible
CCA6.2	2	Shag	SA	1	11	Possible
CCA6.2	2	Stonechat	SC	2	1	Possible
CCA6.2	2	Starling	SG	1	2	Probable
CCA6.2	2	Swallow	SL	2	9	Confirmed
CCA6.2	2	Sand martin	SM	1	2	Probable
CCA6.2	2	Snipe	SN	1	1	Possible
CCA6.2	2	Shelduck	SU	6	4	Probable
CCA6.2	2	Shoveler	SV	3	7	Probable
CCA6.2	2	Sedge warbler	SW	1	2	Possible
CCA6.2	2	Teal	T.	2	2	Probable
CCA6.2	2	Sandwich tern	TE	3	5	Possible
CCA6.2	2	Turnstone	TT	1	3	Possible
CCA6.2	2	Wheatear	W.	1	2	Probable
CCA6.2	2	Wren	WR	2	2	Possible
CCA6.2	2	Willow warbler	WW	1	1	Possible

May breeding bird survey results. Species in bold indicate a QI of a European Site within the ZoI

Licence Area	Vantage Point / Transect	Species	Code	Number of records	Peak Count	Highest Breeding Status
CCA2-3	1	Cormorant	CA	3	12	Possible
CCA2-3	1	Common tern	CN	10	40	Probable
CCA2-3	1	Dunnock	D.	1	1	Possible
CCA2-3	1	Feral pigeon	FP	1	4	Probable
CCA2-3	1	Great black-backed gull	GB	4	2	Confirmed
CCA2-3	1	Goldfinch	GO	2	6	Probable
CCA2-3	1	Gannet	GX	1	1	Possible
CCA2-3	1	Herring gull	HG	7	16	Confirmed
CCA2-3	1	Linnet	LI	2	2	Probable
CCA2-3	1	Oystercatcher	OC	2	2	Probable
CCA2-3	1	Pied wagtail	PW	1	2	Probable
CCA2-3	1	Shag	SA	1	2	Possible
CCA2-3	1	Starling	SG	2	6	Confirmed
CCA2-3	1	Shelduck	SU	2	2	Probable
CCA2-3	1	Black guillemot	TY	2	2	Probable
CCA2-3	1	Wren	WR	1	1	Possible
CCA2-3	2	Great black-backed gull	GB	1	7	Possible
CCA2-3	2	Herring gull	HG	2	8	Confirmed
CCA2-3	2	Oystercatcher	OC	1	2	Probable
CCA2-3	2	Shelduck	SU	1	3	Possible
CCA5	1	Cormorant	CA	3	12	Possible
CCA5	1	Dunnock	D.	1	1	Possible
CCA5	1	Fulmar	F.	1	5	Possible
CCA5	1	Great black-backed gull	GB	2	5	Possible
CCA5	1	Guillemot	GU	3	40	Possible
CCA5	1	Herring gull	HG	3	30	Possible
CCA5	1	House martin	HM	1	1	Possible
CCA5	1	House sparrow	HS	2	2	Probable
CCA5	1	Kittiwake	KI	2	40	Possible
CCA5	1	Razorbill	RA	3	8	Possible
CCA5	1	Shag	SA	3	3	Possible
CCA5	1	Starling	SG	2	10	Confirmed
CCA5	1	Sand martin	SM	1	12	Probable
CCA5	1	Song thrush	ST	1	1	Possible

CCA5	1	Black guillemot	TY	1	2	Possible
CCA5	1	Whitethroat	WH	2	2	Probable
CCA5	1	Wren	WR	1	1	Possible
CCA5	1	Willow warbler	WW	1	1	Possible
CCA5	2	Cormorant	CA	2	23	Confirmed
CCA5	2	Fulmar	F.	1	5	Confirmed
CCA5	2	Great black-backed gull	GB	1	2	Probable
CCA5	2	Guillemot	GU	1	400	Possible
CCA5	2	Herring gull	HG	2	18	Confirmed
CCA5	2	Shag	SA	2	38	Confirmed
CCA5	2	Sand martin	SM	3	34	Confirmed
CCA6.1	1	Little tern	AF	3	300	Confirmed
CCA6.1	1	Buzzard	BZ	1	1	Possible
CCA6.1	1	Dunnock	D.	1	2	Probable
CCA6.1	1	Little egret	ET	1	1	Possible
CCA6.1	1	Goldfinch	GO	1	2	Probable
CCA6.1	1	Grey heron	H.	1	1	Possible
CCA6.1	1	Lapwing	L.	3	8	Confirmed
CCA6.1	1	Linnet	LI	1	2	Probable
CCA6.1	1	Meadow pipit	MP	2	2	Probable
CCA6.1	1	Mute swan	MS	2	2	Probable
CCA6.1	1	Oystercatcher	OC	7	4	Confirmed
CCA6.1	1	Reed bunting	RB	1	1	Possible
CCA6.1	1	Raven	RN	1	2	Probable
CCA6.1	1	Ringed plover	RP	6	14	Confirmed
CCA6.1	1	Skylark	S.	2	2	Possible
CCA6.1	1	Stonechat	SC	1	1	Possible
CCA6.1	1	Starling	SG	1	2	Confirmed
CCA6.1	1	Swallow	SL	3	4	Possible
CCA6.1	1	Snipe	SN	1	1	Possible
CCA6.1	1	Song thrush	ST	1	1	Possible
CCA6.1	1	Shelduck	SU	1	4	Probable
CCA6.1	1	Sedge warbler	SW	2	1	Possible
CCA6.1	1	Woodpigeon	WP	1	6	Possible
CCA6.1	1	Wren	WR	1	1	Possible
CCA6.1	1	Willow warbler	WW	1	1	Possible
CCA6.2	2	Little tern	AF	4	2	Possible
CCA6.2	2	Bullfinch	BF	1	1	Possible

CCA6.2	2	Goldfinch	GO	1	1	Possible
CCA6.2	2	Grey heron	H.	2	3	Possible
CCA6.2	2	House sparrow	HS	2	2	Confirmed
CCA6.2	2	Linnet	LI	3	2	Probable
CCA6.2	2	Mistle thrush	M.	1	1	Possible
CCA6.2	2	Meadow pipit	MP	3	2	Possible
CCA6.2	2	Oystercatcher	OC	1	1	Possible
CCA6.2	2	Ringed plover	RP	3	6	Confirmed
CCA6.2	2	Stonechat	SC	5	2	Probable
CCA6.2	2	Starling	SG	2	5	Probable
CCA6.2	2	Swallow	SL	2	2	Possible
CCA6.2	2	Sedge warbler	SW	1	1	Possible
CCA6.2	2	Whitethroat	WH	2	1	Possible

June breeding bird survey results. Species in bold indicate a QI of a European Site within the ZoI

Licence Area	Vantage Point / Transect	Species	Code	Number of records	Peak Count	Highest Breeding Status
CCA2-3	1	Arctic tern	AE	2	20	Probable
CCA2-3	1	Little tern	AF	1	2	Probable
CCA2-3	1	Cormorant	CA	5	17	Confirmed
CCA2-3	1	Common Tern	CN	4	80	Probable
CCA2-3	1	Great black-backed gull	GB	3	5	Probable
CCA2-3	1	Herring gull	HG	5	70	Confirmed
CCA2-3	1	Oystercatcher	OC	3	2	Probable
CCA2-3	1	Ringed plover	RP	1	2	Probable
CCA2-3	1	Shag	SA	1	4	Probable
CCA2-3	1	Sandwich tern	TE	1	7	Probable
CCA2-3	1	Black guillemot	TY	1	1	Possible
CCA2-3	2	Arctic tern	AE	2	1	Possible
CCA2-3	2	Cormorant	CA	2	3	Confirmed
CCA2-3	2	Fulmar	F.	2	1	Possible
CCA2-3	2	Great black-backed gull	GB	3	9	Confirmed
CCA2-3	2	Guillemot	GU	2	74	Possible
CCA2-3	2	Herring gull	HG	2	12	Confirmed
CCA2-3	2	Kittiwake	KI	1	2	Possible
CCA5	1	Blackbird	B.	1	1	Probable

CCA5	1	Blue tit	BT	1	1	Possible
CCA5	1	Cormorant	CA	9	25	Confirmed
CCA5	1	Common Tern	CN	1	1	Possible
CCA5	1	Fulmar	F.	4	8	Confirmed
CCA5	1	Great black-backed gull	GB	2	3	Possible
CCA5	1	Goldfinch	GO	5	5	Probable
CCA5	1	Guillemot	GU	9	3000	Confirmed
CCA5	1	Gannet	GX	1	3	Possible
CCA5	1	Herring gull	HG	4	9	Confirmed
CCA5	1	House sparrow	HS	2	20	Possible
CCA5	1	Kittiwake	KI	4	19	Confirmed
CCA5	1	Meadow pipit	MP	1	1	Probable
CCA5	1	Razorbill	RA	8	100	Confirmed
CCA5	1	Skylark	S.	2	1	Probable
CCA5	1	Stonechat	SC	1	3	Probable
CCA5	1	Swift	SL	1	20	Possible
CCA5	1	Sand martin	SM	2	200	Possible
CCA5	1	Woodpigeon	WP	1	2	Possible
CCA5	1	Wren	WR	1	1	Probable
CCA6.1	1	Little tern	AF	8	600	Confirmed
CCA6.1	1	Blackbird	B.	1	1	Probable
CCA6.1	1	Bar-tailed godwit	BA	2	2	Non-breeding
CCA6.1	1	Bullfinch	BF	1	1	Probable
CCA6.1	1	Black-headed gull	BH	2	9	Probable
CCA6.1	1	Black-tailed godwit	BW	1	2	Possible
CCA6.1	1	Cormorant	CA	1	2	Possible
CCA6.1	1	Little egret	ET	2	2	Probable
CCA6.1	1	Great black-backed gull	GB	1	4	Possible
CCA6.1	1	Goldcrest	GC	1	1	Possible
CCA6.1	1	Greenshank	GK	1	1	Possible
CCA6.1	1	Goldfinch	GO	1	3	Possible
CCA6.1	1	Great tit	GT	1	1	Possible
CCA6.1	1	Grey heron	H.	1	1	Possible
CCA6.1	1	Herring gull	HG	1	14	Possible
CCA6.1	1	House martin	HM	1	10	Possible
CCA6.1	1	House sparrow	HS	1	4	Possible
CCA6.1	1	Lapwing	L.	2	4	Confirmed
CCA6.1	1	Little grebe	LG	2	3	Probable

CCA6.1	1	Linnet	LI	1	2	Probable
CCA6.1	1	Mallard	MA	2	1	Probable
CCA6.1	1	Meadow pipit	MP	2	1	Possible
CCA6.1	1	Mute swan	MS	1	2	Possible
CCA6.1	1	Oystercatcher	OC	8	1	Confirmed
CCA6.1	1	Pied wagtail	PW	2	2	Probable
CCA6.1	1	Redshank	RK	1	3	Probable
CCA6.1	1	Ringed plover	RP	3	1	Confirmed
CCA6.1	1	Reed warbler	RW	1	1	Probable
CCA6.1	1	Skylark	S.	5	2	Probable
CCA6.1	1	Stonechat	SC	2	2	Probable
CCA6.1	1	Starling	SG	3	30	Probable
CCA6.1	1	Swift	SI	1	10	Possible
CCA6.1	1	Sand martin	SM	1	10	Possible
CCA6.1	1	Snipe	SN	1	2	Probable
CCA6.1	1	Song thrush	ST	1	1	Probable
CCA6.1	1	Shelduck	SU	3	2	Probable
CCA6.1	1	Sedge warbler	SW	2	1	Probable
CCA6.1	1	Sandwich tern	TE	1	2	Possible
CCA6.1	1	Whitethroat	WH	1	1	Probable
CCA6.1	1	Whimbrel	WM	1	1	Possible
CCA6.1	1	Wren	WR	2	1	Probable
CCA6.1	1	Willow warbler	WW	1	1	Probable
CCA6.2	2	Little tern	AF	3	5	Confirmed
CCA6.2	2	Goldfinch	GO	1	10	Possible
CCA6.2	2	Gannet	GX	1	1	Confirmed
CCA6.2	2	Grey heron	H.	1	1	Possible
CCA6.2	2	House martin	HM	1	2	Possible
CCA6.2	2	House sparrow	HS	1	10	Confirmed
CCA6.2	2	Linnet	LI	2	2	Possible
CCA6.2	2	Meadow pipit	MP	1	1	Possible
CCA6.2	2	Pied wagtail	PW	1	1	Probable
CCA6.2	2	Skylark	S.	3	1	Confirmed
CCA6.2	2	Stonechat	SC	1	5	Possible
CCA6.2	2	Starling	SG	1	20	Confirmed
CCA6.2	2	Whitethroat	WH	1	1	Probable