AECOM

# 19/062 - WO064 Marine Modelling Studies - Lot 1 Greater Dublin & Northeast Region

Supporting Information for Screening of Appropriate Assessment

Uisce Éireann

August 2026

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## Quality Information

| Prepared by | Checked by | Verified by | Approved by |
|---|---|---|---|
| Amelia Bywater<br>Consultant Marine Ecologist | Alison Donnelly<br>Senior Marine Ecologist | Jacqui North<br>Associate HRA Consultant | Sundar Rangasamy<br>Associate Director |
| Laura Hearnden<br>Senior Marine Ecologist | Alison Donnelly<br>Senior Marine Ecologist | Brian Cuthbert<br>Associate Director | Sundar Rangasamy<br>Associate Director |

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| | | | | | |

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## Prepared for:

Uisce Éireann

## Prepared by:

AECOM

AECOM Ireland Limited
4th Floor, One Burlington Plaza
Burlington Road
Dublin 4
D04 RH96
Ireland

T: +353 1 696 6220
aecom.com

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# 1.1 Supporting Information for Screening of Appropriate Assessment

## 1.2 Introduction

This Attachment has been prepared in support of the Maritime Usage Licence (MUL) Application for marine surveys associated with the Marine Modelling Study (MMS) being undertaken by Uisce Éireann along the Irish coast, from Carlingford Lough to Kilcoole The marine surveys comprise the deployment and recovery of Acoustic Doppler Current Profilers (ADCPs), bathymetric surveys, and passive water quality sampling (hereafter referred to as the Marine Surveys), within Proposed Licence Areas A–D (Figure 1). Further details of the marine surveys and Proposed Licence Areas A-D can be found in Part 3 of the MUL Application.

This attachment forms one of eleven attachments (the current attachment is highlighted in **bold**) submitted in support of included as part of the MUL Application:

- Attachment 3.1: Proposed Maritime Usage
- Attachment 3.4: MUL Map and GIS Shapefiles
- Attachment 3.5: Other Maps and Drawings
- Attachment 4.1: Compliance with Objectives of the National Marine Planning Framework (NMPF);
- **Attachment 4.3.1: Supporting Information for Screening of Appropriate Assessment (SISAA);**
- Attachment 4.4: Risk Assessment for Annex IV Species;
- Attachment 4.5: Compliance with Objectives of the Water Framework Directive;
- Attachment 4.6: Compliance with Marine Strategy Framework Directive;
- Attachment 4.7: Information for EIA Screening; and,
- Attachment 4.11: Compliance with National or European Strategic or Policy Objectives.

The purpose of this document is to consider the potential for likely significant effects from the Marine Surveys of the Lot 1 Project on European sites, which include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). It serves to 'screen' for likely significant effects on European sites from the Marine Surveys, either alone or in-combination with other plans or projects, and in view of best scientific knowledge.

## 1.3 Quality Assurance and Statement of Authority

This Report and the assessment described within it has been completed in accordance with the AECOM Integrated Management System (IMS). AECOM's IMS places emphasis on professionalism, technical excellence, quality, as well as covering health, safety, environment and sustainability management. All AECOM staff members are committed to maintaining this accreditation to those parts of BS EN ISO 9001:2015 and 14001:2015, as well as BS OHSAS 18001:2007 that are relevant to a consultancy service.

## 1.4 Legislative Context

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, which is more commonly known as the 'Habitats Directive', requires Member States of the European Union (EU) to take measures to maintain or restore, at favourable conservation status, natural habitats and wild species of fauna and flora of Community interest. The provisions of the Habitats Directive require that Member States designate SACs for habitats listed in Annex I and for species listed in Annex II. Similarly, Directive 2009/147/EC on the conservation of wild birds, which is more commonly known as the 'Birds Directive', provides a framework for the conservation and management of wild birds. It also requires Member States to identify and classify SPAs for rare or vulnerable species listed in Annex I of the Birds Directive, as well as for certain regularly occurring migratory species. Collectively, SACs and SPAs are known as 'European sites'.

In Ireland, the habitats and/or species which are the reason(s) for designation of an SAC are referred to as 'Qualifying Interests' (QI). In relation to SPAs, the bird species for which a particular site is designated are referred to as the 'Special Conservation Interests' (SCI).

Under Article 6(3) of the Habitats Directive, any plan or project which is not directly connected with or necessary to the management of a European site, but would be likely to have a significant effect on such a site, either individually

or in-combination with other plans or projects, must be subject to an Appropriate Assessment (AA) of its implications for the SAC / SPA in view of the site's Conservation Objectives.

In the Republic of Ireland, the requirements of Article 6(3) are transposed into national law through Part 8 of the Maritime Area Planning Act 2021 (hereafter abbreviated to the 'MAP Act 2021') and Part XAB of the Planning and Development Act 2000 (as amended) (hereafter abbreviated to the 'PDA') for planning matters, and by the European Communities (Birds and Natural Habitats) Regulations 2011 in relation to other relevant approvals/consents. Part 8 of the MAP Act 2021 inserts a new Part XXI into PDA. This Part 8 deals with maritime development. Commencement of Part 8 of the MAP Act 2021 is necessary at this juncture to enable the so-called "relevant projects" to commence the development consent process. These projects are either those who applied for or were granted a lease under the MAP Act 2021.

Under the MAP Act 2021, marine licencing for specified activities must be obtained from Maritime Area Regulatory Authority (MARA) before carrying out activities in the Nearshore Area or Maritime Area. As the competent authority, Uisce Éireann (see Section 1.5) must carry out a screening for an AA on any maritime usage licence application which may have significant effects on the conservation objectives of a European site. Uisce Éireann is also required to apply the Precautionary Principle (as defined in European Commission (2000) and UNESCO (2005)) to European sites and can only grant consent once it has been ascertained that the Lot 1 Project will not adversely affect the integrity of any European site.

## 1.5 Purpose of this Report

Whilst the various steps involved in the AA process must be carried out by a competent authority, under Section 177U(3) of the PDA, project proponents or their consultants may undertake a form of screening to establish if an AA is required and provide advice or may submit the information necessary to allow the competent authority to conduct a screening of an application for consent. Specifically, Section 177U(3) states that:

> *"in carrying out a screening for appropriate assessment of a proposed development a competent authority may request such information from the applicant as it may consider necessary to enable it to carry out that screening and may consult with such persons as it considers appropriate…".*

This SISAA report therefore serves to provide AECOM's opinion on the requirement for further AA, and to provide the information needed by MARA to make their own screening decision as competent authority for the planning application for the Marine Surveys.

For clarity, in the context of the Habitats Directive, the Marine Surveys represent a 'project' and no reference to 'plans' is made hereafter, except where required to consider the potential for in-combination effects to arise between the Marine Surveys and any relevant plans.

## 1.6 Project Description

The Lot 1 Project involves conducting Marine Surveys within certain areas of the Proposed Licence Areas (Figure 1). These Marine Surveys will include ADCP surveys, bathymetric surveys and other passive water quality sampling. The Marine Surveys will involve deploying, operating, and recovering ADCPs and tidal gauges. Each bed-mounted ADCP and tidal gauge will include a Conductivity, Temperature, and Depth (CTD) sensor. CTD profiles will also be recorded upon completion of each ADCP deployment. Bathymetric surveys will use vessel-mounted single-beam or multibeam echo sounders (SBES/MBES) within certain areas of the Proposed Licence Areas (see Figure 1).

Passive water quality monitoring will involve minimal-disturbance, non-intrusive methods such as handheld sondes, Niskin bottles (for collecting water samples from shore or vessel), and water level/tidal monitoring using gauges affixed to existing structures. These methods have no significant impact on protected marine species, and therefore they are not considered further in this assessment. However, their planned locations are shown on Figure 1 for completeness.

These surveys are scheduled to commence within a 60-month period from 01 September 2026 or the licence date. The survey duration will be a minimum of 35-days and a maximum of 60 days (survey period). Within that survey period there will be 13-hour surveys over a spring tide and a neap tide. The bathymetric surveys may be undertaken during the 35-day survey period or as separate surveys but not commencing before 01 September 2026 or the licence date. The data collected will be used for calibrating hydrodynamic and water quality models, which will support an assessment of water quality in the broader Lot 1 area.

### 1.6.1 ADCP Surveys

These surveys will be carried out in shallow waters only, less than 100 m in depth. There will be a total of eighteen ADCPs deployed throughout the Proposed Licence Areas with two ADCPs deployed in Area A, ten deployed in Area B, three deployed in Area C and three deployed in Area D. The ADCPs will be located within 100 m of the centre point for each ADCP to allow for optimal placement. Details on these ADCPs are shown in Table 1 and the indicative location of deployment is shown on Figure 1.

For the purposes of this SISAA report the construction phase represents the deployment of ADCPs on the seabed/vessel-mounted, the operational phase is the operation of the ADCPs, and the decommissioning phase is the recovery of the ADCPs from the seabed/vessel. These are described in further detail below.

#### 1.6.1.1 Deployment of ADCP Instruments (Deployment Phase)

ADCPs will be deployed either directly onto the seabed or vertically mounted from a vessel or structure. All deployment locations are in waters shallower than 100 m and are shown in Figure 1. Seabed-mounted ADCPs will be lowered from the vessel using a crane or A-frame with a winch. They will remain fully submerged for approximately 35 days, with a maximum deployment of 60 days. The four vertically deployed ADCPs (VADCPs) will be mounted from vessels or bridges. These are not placed on the seabed but instead suspended in the water column, either manually or using a winch.

#### 1.6.1.2 Operation of ADCP Instruments (Operation Phase)

During operation, the ADCPs will remain on the seabed/vessel for an approximate duration of the survey period to gather hydrodynamic data. To collect data during operation, the ADCP survey instruments will emit periodic "pings" of sound into the water column. For the Lot 1 Project, the pings emitted from the ADCPs will have operating frequencies between 200 kHz to 500 kHz. The instrument is contained within a trawl resistant housing and has a footprint of less than 1 $m^2$. A Conductivity Temperature Depth (CTD) sonde may be placed inside the housing.

#### 1.6.1.3 Recovery of ADCP survey Instruments (Decommissioning Phase)

To facilitate recovery, a hydrostatic release mechanism will be employed. When activated, it sends a ranging ping to the release mechanism. If successful, this mechanism releases a buoy connected to a recovery line. The vessel can then manoeuvre into position over the buoy and retrieve the ADCPs onto the boat using the crane. In cases where the hydrostatic release fails, the ADCPs are equipped with acoustic pingers that can be activated to assist in locating the ADCP instruments. Another attempt can then be made to activate the acoustic release. If this attempt also fails, the ADCP will be recovered using a grapple recovery method. This involves dragging a line with a grapple attached across the seabed in the deployment area to catch the grapple line between the ADCPs and the grapple anchor. To avoid unnecessary interaction with underwater archaeology prior review of the underwater cultural heritage (UCH) database will be carried out prior to the surveys.

**Table 1. List of ADCPs within the Proposed Licence Areas**

| ADCP Reference | ADCP Name | Within Proposed Licence Area | Area of seabed |
|---|---|---|---|
| ADCP02 | Dundalk Bay | A | Approximately 1 $m^2$ |
| VADCP02 | Dundalk Channel | A | Vessel mounted |
| ADCP03 | Skerries Islands | B | Approximately 1 $m^2$ |
| ADCP04 | Rogerstown Estuary Offshore | B | Approximately 1 $m^2$ |
| ADCP05 | Howth Harbour Approach | B | Approximately 1 $m^2$ |
| ADCP06 | Malahide Marine | B | Approximately 1 $m^2$ |
| ADCP12 | Malahide 1 | B | Approximately 1 $m^2$ |
| ADCP13 | Malahide 2 | B | Approximately 1 $m^2$ |
| ADCP14 | Malahide 3 | B | Approximately 1 $m^2$ |
| VADCP03 | Drogheda Entrance Channel | B | Vessel mounted |
| VADCP04 | Rogerstown Channel | B | Vessel mounted |
| VADCP05 | Malahide Harbour Entrance | B | Vessel mounted |
| ADCP07 | Dublin Bay (Outer) | C | Approximately 1 $m^2$ |
| ADCP08 | Dun Laoghaire | C | Approximately 1 $m^2$ |
| ADCP09 | Dublin Bay (Inner) | C | Approximately 1 $m^2$ |

| | | | |
|---|---|---|---|
| ADCP10 | Shanganagh | D | Approximately 1 $m^2$ |
| ADCP11 | Bray SWO | D | Approximately 1 $m^2$ |
| ADCP12 | Greystones | D | Approximately 1 $m^2$ |

### 1.6.2 Bathymetric Surveys

The bathymetric surveys will include the use of SBES and/or MBES within areas B, C and D of the Proposed Licence Areas. These surveys will be carried out in shallow waters only, less than 100 m in depth, at the time of writing this report the exact number, make and models of the survey equipment are not known. However, industry standard operating frequencies will be used, which typically range from 200-700 kHz for MBES and 200 kHz for SBES. During the survey window the SBES/MBES will be vessel-mounted. The total area of bathymetric surveys is 3,747 ha. Details on the survey areas are shown in Table 2 and the location of these survey areas are shown on Figure 1.

**Table 2 List of Bathymetric survey areas within the Proposed Licence Areas**

| Bathymetric Site Reference | Bathymetric Site Name | Within Proposed Licence Area | Area of seabed (ha) |
|---|---|---|---|
| Bathy01 | Skerries | B | 694 |
| Bathy02 | Broadmeadow Water | B | 337 |
| Bathy03 | Malahide Harbour | B | 245 |
| Bathy04 | Malahide Bay | B | 373 |
| Bathy05 | Shanganagh | C & D | 1456 |
| Bathy06 | Greystones | D | 642 |

### 1.6.3 Tide Gauges

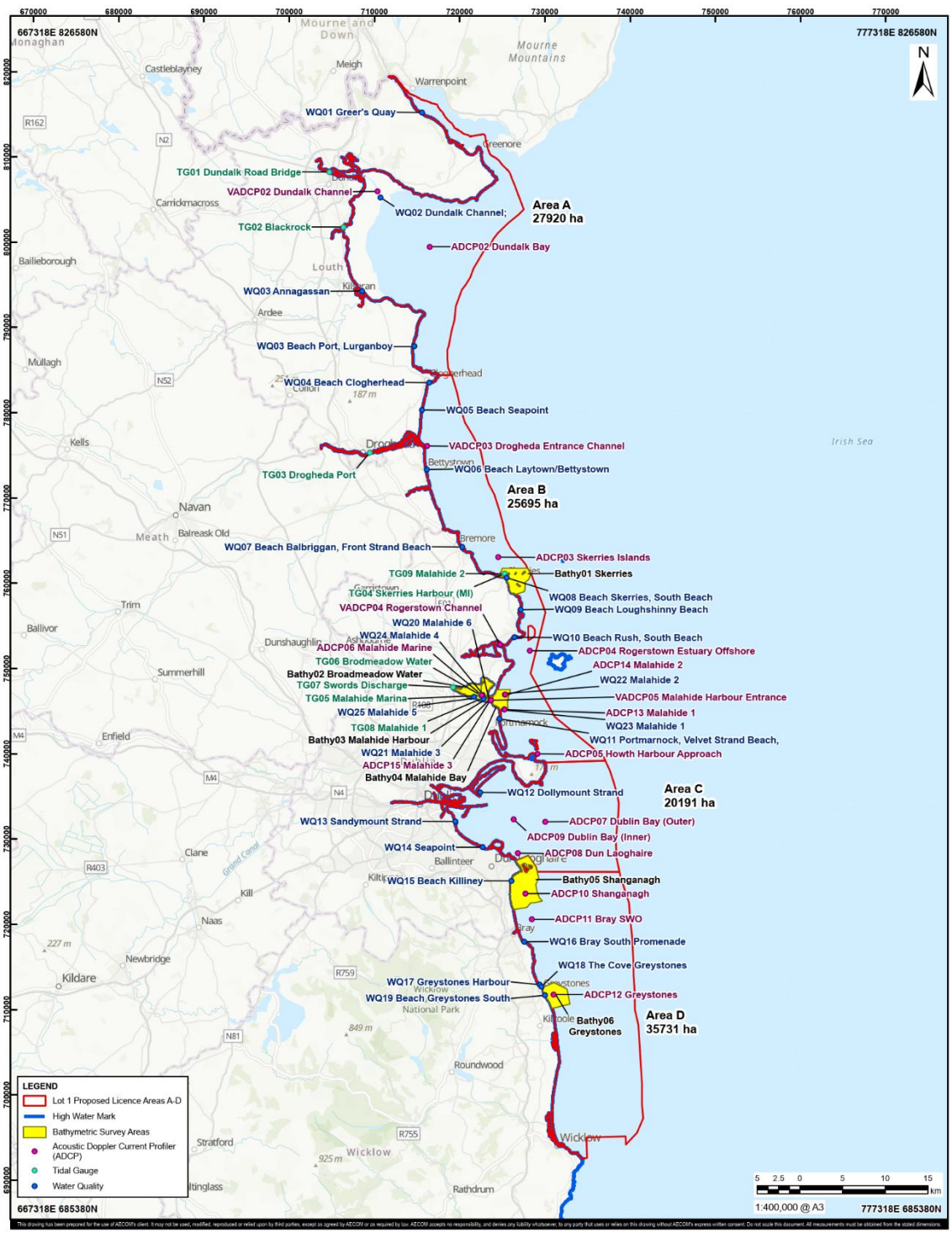
There are a total of nine tidal gauges to be positioned within the Proposed Licence Areas, two in Area A and seven in Area B. These will all be passive tide gauges with an area less than 0.1 $m^2$ mounted on fixed structures, quaysides or navigation markers and will not be placed on the seabed. Further information can be found in Table 3 and their locations are shown in Figure 1.

**Table 3 Proposed tide gauge locations**

| Gauge Reference | Site Name | Within Proposed Licence Area | Coordinates |
|---|---|---|---|
| TG01 | Dundalk Road Bridge | A | 704710, 808224 |
| TG02 | Blackrock | A | 706375, 801754 |
| TG03 | Drogheda Port | B | 709457, 775310 |
| TG04 | Skerries Harbour (MI) | B | 725237, 761098 |
| TG05 | Malahide Marina | B | 722609, 746840 |
| TG06 | Broadmeadow Water | B | 722438, 746880 |
| TG07 | Swords Discharge | B | 719219, 747802 |
| TG08 | Malahide 1 | B | 722649; 746565 |
| TG09 | Malahide 2 | B | 725287; 761137 |

### 1.6.4 Survey Vessels

Survey vessels will be selected by the survey contractor. The vessels will be selected based on suitability as a survey platform for the deployment and recovery of the different equipment. It is envisioned that two small vessels (up to 25 m in length) moving (*i.e.,* survey speeds of 4 knots and 10 – 15 knots whilst in transit) will be used at any one time during the Marine Surveys, subject to final survey methodology and contractor arrangements. The vessels may maintain their position either using an anchor or dynamic positioning depending on the size and type of vessel. Note, that dynamic positioning will not be used in shallow areas or when a vessel is close to the shore except for berthing operations at suitable docking facilities.




CLIENT
Uisce Éireann
Irish Water

TITLE
Proposed Licence Area Map

Lot 1 Licence Area

DRAWING NUMBER
Figure 1

REVISION
P01

DATE
15/07/2026

PROJECTION
Irish Transverse Mercator (ITM)

MARA FILE REFERENCE
MUL260049

DATA SOURCES
High Water Mark (HWM) as defined by the CBS was sourced as recommended in the MARA Technical Guidance V7: Tailte Éireann Surveying Open Data Portal https://data-osi.opendata.arcgis.com
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PREPARED BY
Jordan Barr
GIS Specialist
AECOM

AECOM Ltd.
10th Floor, The Clarence West Building
2 Clarence Street West
Belfast, BT2 7GP, UK
Tel (028) 9060 7200
www.aecom.com

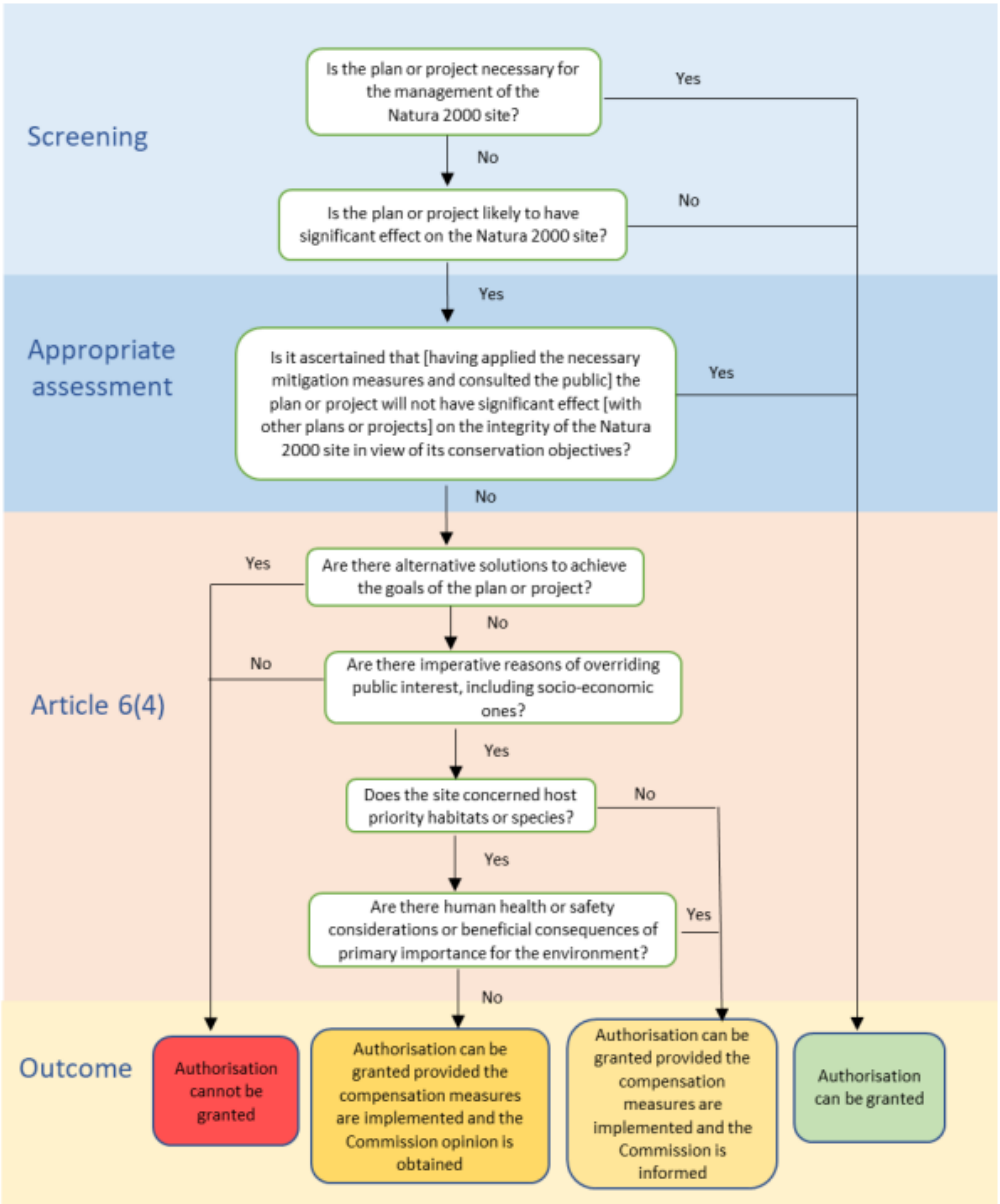
**Figure 1. Proposed Survey Areas.**

# 2. Methodology

## 2.1 Overview of Appropriate Assessment Process

The process required by Articles 6(3) and 6(4) of the Habitats Directive is stepwise and must be followed in sequence. Image 1 below outlines the stages of AA according to current European Commission (EC) guidance (European Commission, 2021). The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations, and any relevant changes to the plan or project until no significant adverse effects remain.

**Image 1 The stages of Appropriate Assessment (taken from European Commission (2021))**




## 2.2 Sources of Guidance

This SISAA report has been prepared in accordance with the European Commission guidance document *Assessment of Plans and Projects in relation to Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC* (European Commission, 2021). In addition, the following sources of guidance were also considered when carrying out the Appropriate Assessment:

- *Appropriate Assessment Screening for Development Management* (OPR, 2021).

- *Appropriate Assessment of Plans and Projects in Ireland* (Department of the Environmental Heritage and Local Government (DoEHLG), 2010).
- *Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC* (EC, 2018).
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular Letter National Parks and Wildlife Service (NPWS) 1/10 & PSSP 2/10* (NPWS, 2010).
- *Guidance Note for Applicants applying for a Maritime Usage Licence (MUL). MARA, 2025 Ver 7. (MARA, 2025).*

## 2.3 Data Sources

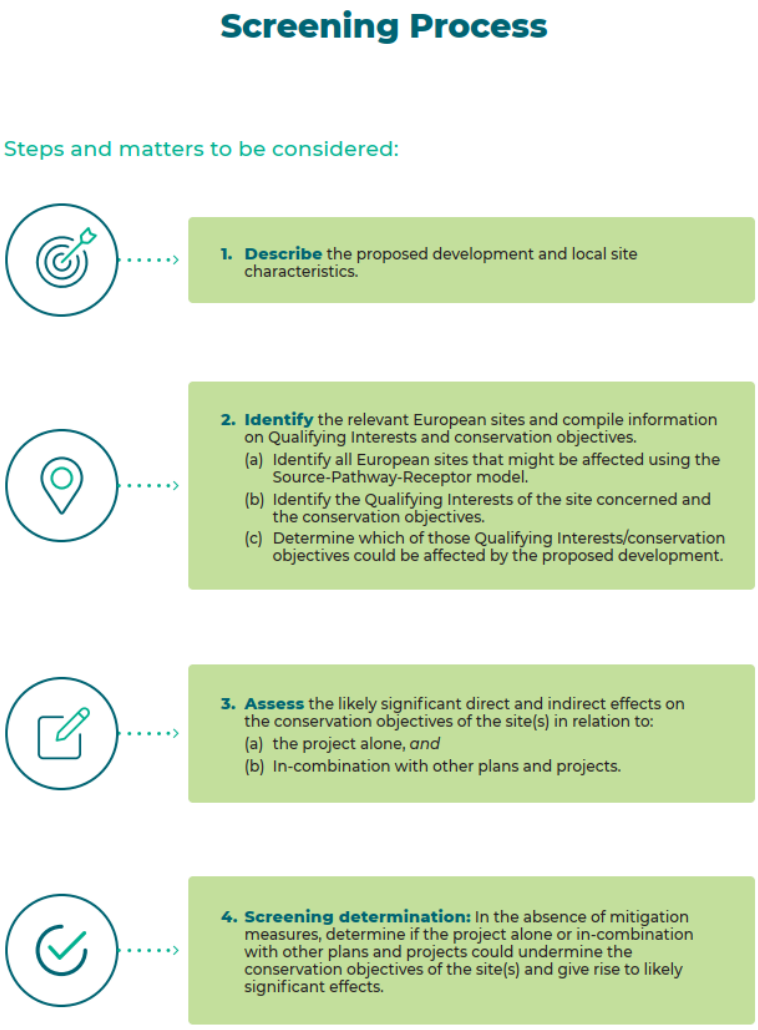
A desk-based study was carried out to help establish the baseline conditions relevant to the Marine Surveys. The following resources were analysed to inform the baseline description of the site of the Marine Surveys and for assessing sensitivities of European sites:

- Environmental Protection Agency (EPA) Appropriate Assessment maps website (https://gis.epa.ie/EPAMaps/AAGeoTool) (accessed March 2026)
- European Marine Observation and Data Network (EMODnet) maps website (https://emodnet.ec.europa.eu/geoviewer/) (accessed March 2026)
- Marine Plan Irelands Spatial Planning Portal (https://marineplan.ie/) (accessed March 2026)
- National Parks and Wildlife Service (NPWS) Protected Sites in Ireland website (https://www.npws.ie/protected-sites) (accessed March 2026)
- Google maps website (https://maps.google.com/) (accessed March 2026)
- The Status of European Union (EU) Protected Habitats and Species in Ireland (Article 17 Report) (https://www.npws.ie/publications/article-17-reports/article-17-reports-2019) (accessed March 2026)

## 2.4 AA Screening Process

The first step in the sequence of tests (after evidence gathering) is to establish whether an AA is required. This is often referred to as 'AA Screening'. Image 2 below outlines the steps of the AA Screening according to Office of the Planning Regulation (OPR) (2021).

**Image 2 The AA Screening process (taken from OPR (2021))**




The purpose of AA Screening is to determine, in view of best available scientific knowledge, whether a plan or project, either alone or in-combination with other plans or projects, could have likely significant effects on a European site, in view of that site's Conservation Objectives.

Section 177U of the PDA specifies:

> *"A screening for appropriate assessment of … [an] application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that … proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.*
>
> *The competent authority shall determine that an appropriate assessment of … a proposed development, …, is required* ***if it cannot be excluded*** [emphasis added]*, on the basis of objective information, that … the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site".*

For this purpose and as a result of case law 'likely' in practice means 'possible'[1]. If the Competent Authority determines that there are no likely significant effects (including 'in combination' effects from other plans or projects), then no further assessment is necessary and the plan or project can, subject to any other consent processes, be taken forward.

If, however, the competent authority determines that there are likely significant effects or if there is reasonable scientific doubt, then the next stage in the process must be initiated and a detailed Natura Impact Statement (NIS) must be prepared. The purpose of a NIS is to further explore the potential impacts and effects and to determine whether a conclusion of no adverse effects on integrity can be drawn for any of the 'screened in' impacts/European

[1] Waddenzee (C-127/02).

sites. One of the key considerations during the NIS stage is whether there is available mitigation that would entirely address potential effects.

## 2.5 Establishing the Zone of Influence

Department of the Environment, Heritage and Local Government guidance (DoEHLG, 2010) states that European sites with the potential to be affected by a project should be identified taking into consideration the potential for direct, indirect and/or cumulative (in-combination) effects. It also states that the specific approach in each case is likely to differ depending on the scale and likely effects of the project. However, it advises that the following sites should generally be included:

- All European sites within or immediately adjacent to the project area.
- All European sites within the likely 'zone of influence' of the project.
- Adopting the Precautionary Principle, all European sites for which there is doubt as to whether or not such sites might be significantly affected.

The likely ZoI of a project is the geographic extent over which it could affect the receiving environment in a way that will result in LSEs on the QIs or SCIs of a European site (OPR, 2021). In the case of projects, the DoEHLG guidance acknowledges that the ZoI must be devised on a case-by-case basis with reference to the following criteria:

- The nature, size/scale and location of the project.
- Sensitivity of ecological features under consideration.
- Cumulative effects.

When seeking to identify the relevant European sites, consideration was given to identified impact pathways and the source-pathway-receptor approach (OPR, 2021), rather than adopting solely a distance-based approach. The source-pathway-receptor approach is a standard tool in environmental assessment. 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 mechanism means there is no possibility of an effect occurring. If, for example, there is a sensitive European site in the vicinity of the Marine Surveys but no mechanism by which the Marine Surveys would impact that site then there is no potential for an ecological effect. Furthermore, even where an impact is predicted to occur, it may not result in likely significant effects.

## 2.6 Potential Sources of Impact

A number of impacts could arise from the Marine Surveys. These surveys will be carried out in the marine environment and therefore only impacts to relevant marine receptors have been assessed in this SISAA report. A general overview description of each impact source is given below.

### 2.6.1 Temporary Direct Loss of or Damage (*e.g.* Sediment Compaction or Increased SSC) to QI Marine Habitat within a European Site

The only part of the Marine Surveys which will interact with the seabed is the deployment, operation, and recovery of ADCPs. This will be carried out in shallow waters (less than 100 m) within marine habitats only. Consequently, the ADCPs may be placed anywhere within the marine habitats located within the Proposed Licence Areas. Therefore, there is potential for the ADCPs to cause temporary direct loss of or damage to QI marine habitats of any European sites which are located within marine habitats of the Proposed Licence Areas.

The deployment and recovery of ADCPs may also cause sediment disturbance (*e.g.* increased suspended-sediment concentration (SSC)) or sediment compaction when placed and recovered from the seabed. This may impact QI habitats of any European sites which are located within marine habitats of the Proposed Licence Areas.

### 2.6.2 Temporary Physical Disturbance or Injury (*e.g.,* Airborne Sound or Visual Disturbance or Collision Risk) to QI / SCI's in the Immediate Vicinity of the Deployment Vessel and Marine Survey Instruments

It is envisioned that the Marine Surveys will include the use of no more than two vessels, subject to final survey methodology and contractor arrangements. The vessels have the potential to cause disturbance or injury where they take place sufficiently close to QI marine species, for example vessel collision risk with marine mammals. Disturbance can also be caused visually (for example by the presence of vessel) or by airborne sound (for example

airborne sound produced by vessels). This could impact QI marine species when inside the boundary of a European site, or outside of a European site when using functionally-linked habitat.

The potential for disturbance to be caused will depend on the location and nature of activities, the distribution of the QI marine species, and the sensitivity of the species to visual disturbance from human activities. Where disturbance is caused, it can have multiple adverse effects on species including increased energy expenditure, reduced feeding time, behavioural changes, and displacement. The disturbance caused may vary depending on different marine receptors groups.

### 2.6.3 Disturbance to QI / SCIs from Underwater Sound Associated with Geophysical and Bathymetric instruments

Underwater sound and vibration will be generated during the deployment and recovery of instruments as well as sounds emitted by survey instruments during operation. The underwater sound generated during deployment and recovery of marine Man-made sound sources, particularly if of high intensity or long duration have the potential to result in permanent and temporary injury and auditory effects and can result in masking and behavioural disturbance in QI fish and QI marine mammals. However, the industry standard operating frequency of these survey instruments is 200-500 kHz for ADCPs, 200-700 kHz for MBES and 200 kHz for SBES.

For most fish species, sensitivity to sound occurs from below 100 Hz to several hundred hertz, or several thousand hertz in a few species (Mann et al. 1997, 2001). For fish known to the area the hearing range is above or equal to 300kHz. The hearing range of marine mammals is between 7 kHz to 160 kHz (see Table 4) which is outside the operating frequency of the geophysical and bathymetric equipment to be deployed during the surveys. There is, therefore, no pathway to effect and underwater sound associated with the survey instruments are therefore not considered further in this SISAA report.

**Table 4. Hearing frequency range of marine mammals**

| Functional hearing group | Auditory band width | Species found in Ireland |
|---|---|---|
| Low frequency cetaceans | 7 Hz to 35 kHz | • Humpback whale *Megaptera novaeangliae;*<br>• Minke whale *Balaenoptera acutorostrata;*<br>• Blue whale *Balaenoptera musculus*;<br>• Fin whale *Balaenoptera physalus*; and<br>• Sei whale *Balaenoptera borealis.* |
| Mid-frequency cetaceans | 150 Hz to 160 kHz | • Sperm whale *Physeter macrocephalus*;<br>• Killer whale *Orcinus orca*;<br>• Long-fine-pilot whale *Globicephala melas*;<br>• Beaked whale species Hyperoodontidae spp., and<br>• Dolphin species (including bottlenose dolphin *Tursiops truncatus* and common dolphin *Delphinus delphis*) |
| High frequency cetaceans | 275 Hz to 160 kHz | • Harbour porpoise *Phocoena phocoena*; and<br>• Pygmy sperm whale *Kogia breviceps.* |
| Pinnipeds in water | 50 Hz to 86 kHz | • Grey seal *Halichoerus grypus; and*<br>• Harbour seal *Phoca vitulina.* |

*Source: Southall et al. (2007); NMFS (2018); and Southall et al. (2019).*

### 2.6.4 Disturbance to QI / SCIs from Underwater Sound Associated with Vessels' Engines during the Marine Surveys

Underwater sound from anthropogenic activities (including vessel engine noise) can negatively impact marine mammals. In cetaceans it can influence their ability to echolocate, communicate and in extreme cases, such as during underwater explosions or military sonar, it can cause physical harm (including through disorientation leading to beaching) and trauma to the auditory apparatus (Southall, *et al.,* 2007). Underwater sound can cause certain cetacean species to change their behaviour and may result in increased alertness, modification of vocalisations, interruption, or cessation of feeding or social interactions, alteration of movement or diving behaviour, and temporary or permanent habitat abandonment. Seals also produce a diversity of sounds, though generally over a lower and more restricted bandwidth (generally from 50 Hz to several tens of kHz (Table 4). Their sounds are used primarily in social and reproductive interaction, both in water and air (Southall, *et al.,* 2007).

### 2.6.5 Impacts on Water Quality Arising from a Pollution Event by Vessel

Accidental / unplanned release of pollutants such as vessel fuels from vessels, equipment and machinery during the deployment and recovery of Marine Survey instruments could have the potential to impact QI fish, marine mammals and SCI birds by altering local water quality.

Waterborne pollution can degrade habitats and can lead to the direct mortality of QI species such as fish and marine mammals. The distance over which such impacts could have effects would depend on the severity of the pollution. However, any European site which has a direct hydrological connection (*i.e.,* located in the same waterbody) to the Marine Surveys, has the potential to be within the ZoI.

## 2.7 Determining the Potential Relevance of Impacts to QI Habitats and Species / SCI Species

#### 2.7.1.1 Annex I Benthic Habitats

A number of Annex I marine habitats listed under the Habitats Directive are a QI of European sites. The Proposed Licence Areas are located within a number of SACs designated for Annex I benthic habitat and therefore the Marine Surveys have the potential to impact these QI habitats where works occur within or adjacent to a European site[2].

#### 2.7.1.2 Annex II Migratory Fish

There are four migratory fish species in Ireland listed under of the Habitats Directive, which are a QI of a European sites:

- Atlantic salmon (*Salmo salmar*);
- Sea lamprey (*Petromyzon marinus*);
- Brook lamprey (*Lampetra planeri);* and
- River lamprey (*Lampetra fluviatilis*).

A regional approach has been adopted to ensure any QI fish that may pass through the Proposed Licence Areas are considered. For the purposes of this SISAA report, disturbance is considered to occur where the Proposed Licence Areas fall in front of a migratory route for QI fish species into a river. Only Atlantic salmon and river lamprey which occurs in the vicinity of the Proposed Licence Areas (Table 5) and therefore only these two QI fish species have been considered in this SISAA report.

Freshwater pearl mussel (*Margaritifera margaritifera)* is not a mobile species. However, it relies upon salmonid fish for part of its lifecycle. Therefore, in cases where a direct hydrological connection exists between the Marine Surveys and an SAC designated for freshwater pearl mussel, the potential impacts on this species are considered.

#### 2.7.1.3 Annex II Marine Mammals

To account for the highly mobile and transient nature of marine mammal species, and potential implications of local impacts on wider populations, all designated sites within the species-specific Marine Mammal Management Units (MMMUs), published by the Inter Agency Marine Mammal Working Group (IAMMWG) (IAMMWG, 2023), are considered. These MMMUs have been defined by the IAMMWG based on their understanding of the biological population structure of these species, and the ecological differentiation of these populations (considering political boundaries and the management of human activities). There are currently no IAMMWG agreed MMMUs for seals, therefore, as recommended in the MARA Technical Guidance Note (2024), all designated sites within their maximum foraging ranges are considered. In accordance with advice received from Natural Resources Wales (NRW) 2022[3], the use of an iterative/sequential process is adopted whereby the closest relevant European site is assessed and if a likely significant effect, cannot be ruled out the next relevant European Site is assessed and so on.

The MMMUs and foraging ranges for the marine mammal species, which are listed under Annex II of the Habitats Directive and that may occur in the vicinity of the Marine Surveys, and have subsequently been used in this SISAA report are:

- Harbour porpoise (*Phocoena phocoena*) – Celtic and Irish Seas MMMU (IAMMWG, 2023);
- Bottlenose dolphin (*Tursiops tuncatus*) – Irish Sea MMMU ((IAMMWG, 2023);

[2] Note, that only European sites with intertidal or subtidal marine habitats have been considered. Any sites designated for coastal habitat which typically occur above MHWS have not been included in this assessment.
[3] NRW (2022) NRW's position on the use of Marine Mammal Management Units for screening and assessment in Habitats Regulations Assessments for Special Areas of Conservation with marine mammal features
https://naturalresources.wales/media/695250/ps006-mmmus-in-hra-position-statement-may22.pdf

- Grey seal (*Halichoerus grypus*) – 448 km (Carter *et al.,* 2022); and
- Harbour seal (*Phoca vitulina*) – 273 km (Carter *et al.,* 2022).

The European otter (*Lutra lutra*) is also listed as an Annex II species under the Habitats Directive. However, due to the offshore nature of the Marine Surveys this terrestrial and coastal species is not considered to be relevant for the purposes of this AA screening and is therefore, not considered further.

#### 2.7.1.4 Marine Ornithology

Ireland harbours several nationally and internationally important bird species, which inhabit areas with coastal sea cliffs, estuaries, and offshore islands. Consequently, many of these areas have been designated as SPAs. The coastal ecosystems serve as crucial breeding grounds for numerous seabird species, many of which are legally protected under both national and European environmental regulations.

Recognising the highly mobile and wide-ranging nature of birds in the marine environment and the potential implications of local impacts on wider populations, the foraging ranges and migration routes (Woodward *et al.,* 2019) along with the specific seasons for the SCI species designated were considered in identifying potential SPAs for the AA screening. Taking the precautionary approach and following the OPR (2021) guidance on the source-pathway-receptor model and considering the sources, the ZoI for displacement and disturbance effects are understood to be spatially confined within 5 km of the Proposed Licence Areas. However, as carried out for marine mammals, an iterative/sequential process is adopted whereby the closest relevant European site is assessed and if a likely significant effect, cannot be ruled out the next relevant European Site is assessed and so on. Therefore, all SPAs within the Proposed Licence Areas have been considered in the first instance and if a likely significant effect, cannot be ruled out then the next relevant European Site within the ZoI is assessed.

For SPAs that have not been included in this report, it is considered that a likely significant effect will not occur either alone or in combination with other projects and plans, due to the scope and scale of the Marine Surveys (*i.e.,* the source and pathway).

# 3. European Sites within Zone of Influence

Taking the approach described in Section 2.5 and with cognisance of the impact sources set out in Section 2.6 and Section 2.7, the ZoI for the Marine Surveys of the Lot 1 Project, and all of the European sites within it, was determined. This is set out in Table 5. The impacts of the deployment and recovery of marine instruments phase are likely to be very similar and are therefore considered together in Table 5. The locations of all European sites within the ZoI are shown on Figure 2.

Not all impacts will have pathways for effects to the QI / SCI of all European sites within the ZoI. Consequently, some sites may be within the ZoI for certain impacts, but not for others.

## Table 5. Identifying Relevant Designated Sites for Consideration based on Source-Pathway-Receptor framework and ZOI

| Impact Source | Pathway to European Site(s) | European Sites within the Potential ZoI |
|---|---|---|
| | **Deployment and Recovery of Marine Instruments** | |
| Temporary direct loss of or damage (*e.g.* sediment compaction or increased SSC) to QI marine habitat within a European site. | Nine European sites designated for QI marine habitats are located within the Proposed Licence Areas, these are:<br>• Baldoyle Bay SAC (located within Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide, *salicornia* and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) and Mediterranean salt meadows (*Juncetalia maritimi*);<br>• Boyne Coast and Estuary SAC (located within Proposed Licence Areas) – designated for estuaries; mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, *salicornia* and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), embryonic shifting dunes, shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") and fixed coastal dunes with herbaceous vegetation ("grey dunes");<br>• Dundalk Bay SAC (located within Proposed Licence Areas) – designated for estuaries, mudflats and sandflats not covered by seawater at low tide; perennial vegetation of stony banks; *salicornia* and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) and Mediterranean salt meadows (*Juncetalia maritimi*);<br>• Malahide Estuary SAC (located within Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide, *salicornia* and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); Mediterranean salt meadows (*Juncetalia maritimi*), shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") and fixed coastal dunes with herbaceous vegetation ("grey dunes");<br>• North Dublin Bay SAC (located within Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, *salicornia* and other annuals colonizing mud and sand; Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); Mediterranean salt meadows (*Juncetalia maritimi*), embryonic shifting dunes, shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"), Fixed coastal dunes with herbaceous vegetation ("grey dunes"), Humid dune slacks and Petalwort (*Petalophyllum ralfsii*);<br>• Rockabill to Dalkey Island SAC (located within Proposed Licence Areas) – designated for reefs and Harbour porpoise;<br>• Rogerstown Estuary SAC (located within Proposed Licence Areas) – designated for estuaries, mudflats and sandflats not covered by seawater at low tide, *salicornia* and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), Mediterranean salt meadows (*Juncetalia maritimi*), Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") and fixed coastal dunes with herbaceous vegetation ("grey dunes");<br>• South Dublin Bay SAC (located within Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, salicornia and other annuals colonizing mud and sand, embryonic shifting dunes; and<br>• Wicklow Reef SAC (located within Proposed Licence Areas) – designated for reefs. | • Baldoyle Bay SAC;<br>• Boyne Coast and Estuary SAC;<br>• Dundalk Bay SAC;<br>• Malahide Estuary SAC;<br>• North Dublin Bay SAC;<br>• Rogerstown Estuary SAC;<br>• South Dublin Bay SAC;<br>• Wicklow Reef SAC;<br>• Rockabill to Dalkey Island SAC. |
| Temporary physical disturbance (*e.g.,* airborne sound or visual disturbance or collision risk) to QI / SCI's in the immediate vicinity of the deployment vessel and Marine Survey instruments | The deployment and recovery of Marine Survey instruments and presence of a vessel could potentially disturb, displace or injure QI marine species in the vicinity. Therefore, the following 34 European sites (15 SACs and 19 SPAs), designated for QI marine species are considered present within the potential ZoI:<br>• Baldoyle Bay SAC (located within Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide, *salicornia* and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) and Mediterranean salt meadows (*Juncetalia maritimi*);<br>• Boyne Coast and Estuary SAC (located within Proposed Licence Areas) – designated for estuaries; mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, *salicornia* and other annuals colonizing mud and sand, | • Baldoyle Bay SAC;<br>• Boyne Coast and Estuary SAC;<br>• Dundalk Bay SAC;<br>• Lambay Island SAC;<br>• Malahide Estuary SAC;<br>• North Dublin Bay SAC;<br>• River Boyne and River Blackwater SAC;<br>• Rockabill to Dalkey Island SAC; |

| Impact Source | Pathway to European Site(s) | European Sites within the Potential ZoI |
|---|---|---|
| | Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), embryonic shifting dunes, shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") and fixed coastal dunes with herbaceous vegetation ("grey dunes");<br>• Dundalk Bay SAC (located within Proposed Licence Areas) – designated for estuaries, mudflats and sandflats not covered by seawater at low tide; perennial vegetation of stony banks; *salicornia* and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) and Mediterranean salt meadows (*Juncetalia maritimi*);<br>• Lambay Island SAC (located > 1 km from Proposed Licence Areas) – designated for reefs, vegetated sea cliffs of the Atlantic and Baltic coasts, Harbour porpoise; grey seal and Harbour seal;<br>• Malahide Estuary SAC (located within Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide, *salicornia* and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); Mediterranean salt meadows (*Juncetalia maritimi*), shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") and fixed coastal dunes with herbaceous vegetation ("grey dunes");<br>• North Dublin Bay SAC (located within Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, *salicornia* and other annuals colonizing mud and sand; Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); Mediterranean salt meadows (*Juncetalia maritimi*), embryonic shifting dunes, shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"), Fixed coastal dunes with herbaceous vegetation ("grey dunes"), Humid dune slacks and Petalwort (*Petalophyllum ralfsii*);<br>• River Boyne and River Blackwater SAC (located within Proposed Licence Areas) – designated for Alkaline fens, Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae); River lamprey, Atlantic salmon and otter.<br>• Rockabill to Dalkey Island SAC (located within Proposed Licence Areas) – designated for reefs and Harbour porpoise;<br>• Rogerstown Estuary SAC (located within Proposed Licence Areas) – designated for estuaries, mudflats and sandflats not covered by seawater at low tide, *salicornia* and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), Mediterranean salt meadows (*Juncetalia maritimi*), Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") and fixed coastal dunes with herbaceous vegetation ("grey dunes");<br>• South Dublin Bay SAC (located within Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, salicornia and other annuals colonizing mud and sand, embryonic shifting dunes;<br>• Wicklow Reef SAC (located within Proposed Licence Areas) – designated for reefs<br>• Codling Fault Zone SAC (located 15. 4 km east of Proposed Licence Areas) – designated for submarine structures made by leaking gases and harbour porpoise.<br>• Blackwater Bank SAC (located 50 km south of Proposed Licence Areas) – designated for sandbanks which are slightly covered by sea water all the time and harbour porpoise.<br>• Carnsore Point SAC (located 80.8 km south of Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide and harbour porpoise.<br>• Hook Head SAC (located 93.3 km east of Proposed Licence Areas) – designated for harbour porpoise and bottlenose dolphin.<br>• North Bull Island SPA designated for various waterbirds and seabirds;<br>• Rockabill SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Rogerstown Estuary SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Baldoyle Bay SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds; | • Rogerstown Estuary SAC;<br>• South Dublin Bay SAC;<br>• Wicklow Reef SAC;<br>• Codling Fault Zone SAC;<br>• Carnsore Point SAC;<br>• Blackwater Bank SAC<br>• Hook Head SAC;<br>• North Bull Island SPA;<br>• Rockabill SPA;<br>• Rogerstown Estuary SPA;<br>• Baldoyle Bay SPA;<br>• South Dublin Bay and River Tolka Estuary SPA;<br>• Malahide Estuary SPA;<br>• Dundalk Bay SPA;<br>• Lambay Island SPA;<br>• Carlingford Lough SPA;<br>• Boyne Estuary SPA;<br>• Stabannan-Braganstown SPA;<br>• Howth Head Coast SPA;<br>• Ireland's Eye SPA;<br>• Skerries Islands SPA;<br>• Wicklow Head SPA;<br>• River Nanny Estuary and Shore SPA;<br>• Dalkey Islands SPA;<br>• The Murrough SPA; and<br>• River Boyne and River Blackwater SPA. |

| Impact Source | Pathway to European Site(s) | European Sites within the Potential ZoI |
|---|---|---|
| | • South Dublin Bay and River Tolka Estuary SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Malahide Estuary SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Dundalk Bay SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Lambay Island SPA (> 1km from the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Carlingford Lough SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Boyne Estuary SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Stabannan-Braganstown SPA (> 5 km from the Proposed Licence Areas) designated for greylag goose (*Anser anser*);<br>• Howth Head Coast SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Ireland's Eye SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Skerries Islands SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Wicklow Head SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• River Nanny Estuary and Shore SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• Dalkey Islands SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds;<br>• The Murrough SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds; and<br>• River Boyne and River Blackwater SPA (within the Proposed Licence Areas) designated for various waterbirds and seabirds. | |
| Disturbance to QI / SCIs from Underwater Sound Associated with Vessels' Engines during the Marine Surveys | The underwater sound generated by the presence of a vessel during deployment and recovery of Marine Survey instruments could potentially disturb or displace QI marine species in the vicinity. Therefore, the following European sites, designated for QI marine species are considered present within the potential ZoI:<br>• River Boyne and River Blackwater SAC (located within Proposed Licence Areas) – designated for Alkaline fens, Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae); River lamprey, Atlantic salmon and otter.<br>• Rockabill to Dalkey Island SAC (located within Proposed Licence Areas) – designated for reefs and Harbour porpoise;<br>• Lambay Island SAC (located > 1 km from the Proposed Licence Areas) – designated for reefs, vegetated sea cliffs of the Atlantic and Baltic coasts, Harbour porpoise; grey seal and Harbour seal;<br>• Codling Fault Zone SAC (located 15. 4 km east of Proposed Licence Areas) – designated for submarine structures made by leaking gases and harbour porpoise.<br>• Blackwater Bank SAC (located 50 km south of Proposed Licence Areas) – designated for sandbanks which are slightly covered by sea water all the time and harbour porpoise.<br>• Carnsore Point SAC (located 80.8 km south of Proposed Licence Areas) – designated for mudflats and sandflats not covered by seawater at low tide and harbour porpoise.<br>• Hook Head SAC (located 93.3 km east of Proposed Licence Areas) – designated for harbour porpoise and bottlenose dolphin. | • River Boyne and River Blackwater SAC;<br>• Rockabill to Dalkey Island SAC;<br>• Lambay Island SAC;<br>• Codling Fault Zone SAC;<br>• Blackwater Bank SAC;<br>• Carnsore Point SAC; and<br>• Hook Head SAC |
| Impacts on water quality arising from a pollution event by vessel | It is envisioned that the Marine Surveys will include the temporary use of no more than two vessels at any one-time, which could theoretically increase the risk of pollution events from the vessel. In the event of a pollution incident, it may impact QI / SCI in the same waterbody due to contaminants and cause a reduction in diversity, abundance and / or biomass. However, due to the nature and size of the vessel, pollution events are likely to be rare and limited to the accidental release of fuel | None |

| Impact Source | Pathway to European Site(s) | European Sites within the Potential ZoI |
|---|---|---|
| | which is highly volatile and will evaporate rapidly when exposed to air and the associated impacts would be highly localised, small scale and any spillage is expected to be insignificant. In the unlikely event of an accidental spillage or pollution, any pollutants would quickly disperse and mix with the water column, aided by strong tidal currents, wind, and waves at the deployment locations. | |
| | **Operation of Marine Instruments** | |
| Temporary direct loss of or damage to QI benthic habitat within a European site | Same as above | Same as above |
| Temporary physical disturbance (*e.g.*, airborne sound or visual disturbance or collision risk) to QI / SCI's in the immediate vicinity of the Marine Survey vessels during bathymetric surveys. | Same as above | • Baldoyle Bay SAC;<br>• Boyne Coast and Estuary SAC;<br>• Dundalk Bay SAC;<br>• Lambay Island SAC;<br>• Malahide Estuary SAC;<br>• North Dublin Bay SAC;<br>• River Boyne and River Blackwater SAC;<br>• Rockabill to Dalkey Island SAC;<br>• Rogerstown Estuary SAC;<br>• South Dublin Bay SAC;<br>• Wicklow Reef SAC;<br>• Codling Fault Zone SAC;<br>• Carnsore Point SAC;<br>• Blackwater Bank SAC<br>• Hook Head SAC;<br>• North Bull Island SPA;<br>• Rockabill SPA;<br>• Rogerstown Estuary SPA;<br>• Baldoyle Bay SPA;<br>• South Dublin Bay and River Tolka Estuary SPA;<br>• Malahide Estuary SPA;<br>• Dundalk Bay SPA;<br>• Lambay Island SPA;<br>• Carlingford Lough SPA;<br>• Boyne Estuary SPA;<br>• Stabannan-Braganstown SPA;<br>• Howth Head Coast SPA; |

| Impact Source | Pathway to European Site(s) | European Sites within the Potential ZoI |
|---|---|---|
| | | • Ireland's Eye SPA;<br>• Skerries Islands SPA;<br>• Wicklow Head SPA;<br>• River Nanny Estuary and Shore SPA;<br>• Dalkey Islands SPA;<br>• The Murrough SPA; and<br>River Boyne and River Blackwater SPA. |
| Temporary physical disturbance (*e.g.* physical obstacle or barrier to movement) to QI / SCI's in the immediate vicinity of the Marine Survey instruments. | There is no realistic pathway for this impact. The physical placement of the Marine Survey instruments on the seabed does not pose any significant disturbance risk to QI / SCI species, which are highly mobile and are well able to simply avoid the Marine Surveys instruments. | None. |
| Impacts on water quality arising from a pollution event | There is no mechanism by which the operation of the Marine Survey instruments could realistically lead to a pollution event which would impact any QI or SCI species of any European site. | None |

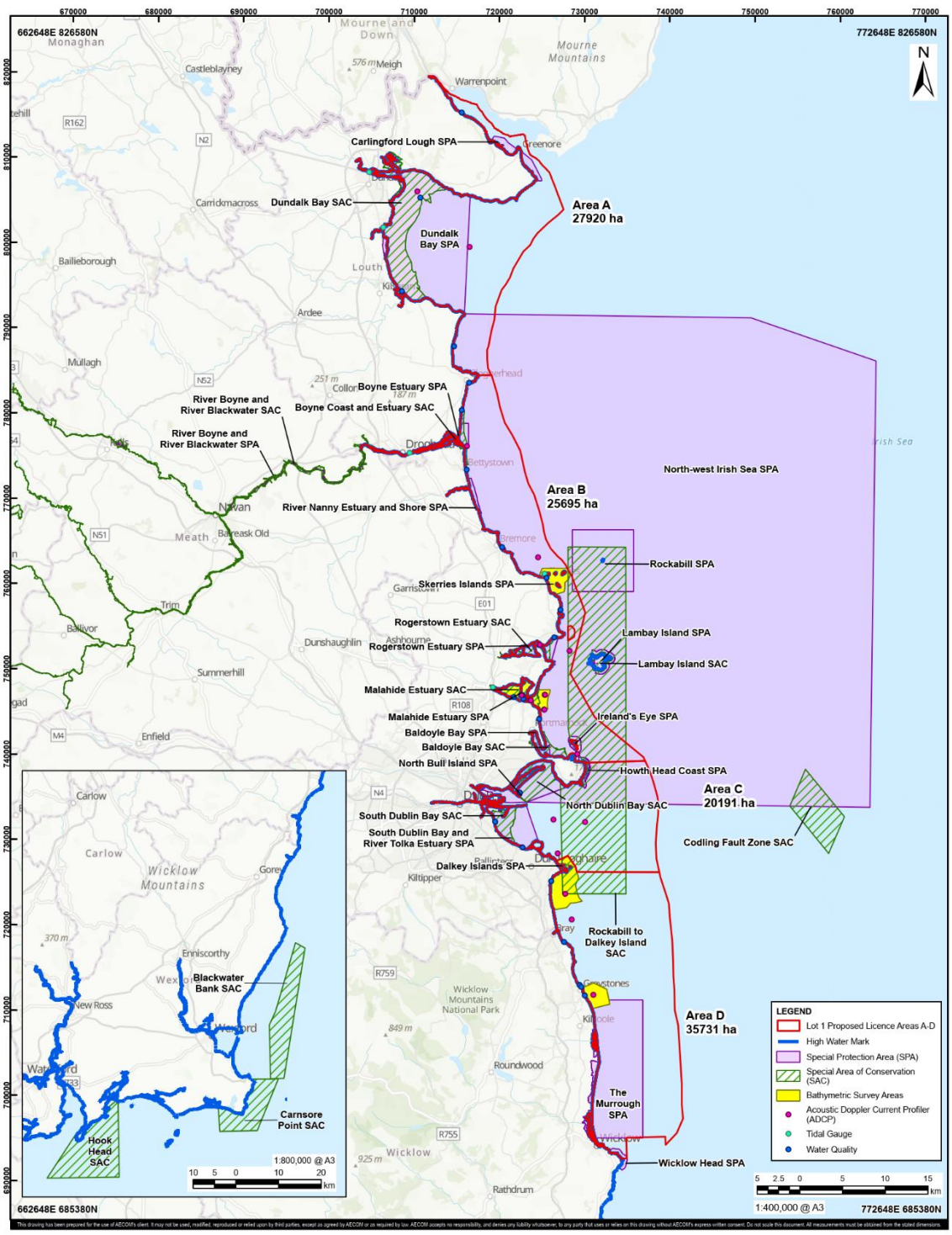



**Figure 2. Proposed Surveys and Relevant European Sites.**

# 4. Test of Likely Significant Effects

## 4.1 Overview

This section assesses the potential for the identified impacts, for which pathways exist to European sites, to have likely significant effects on those sites. 'Likely' in this context is taken to mean 'possible', while a 'significant' effect is one which could undermine the Conservation Objectives of a European site.

The purpose of AA Screening is to determine those elements of a project regarding which it can be stated, without detailed appraisal, that significant effects on a European site are unlikely. In line with case law[4], consideration cannot be given at this stage to specific mitigation measures designed to avoid significant effects on a European site. The test of likely significant effects in this section is therefore necessarily a high-level appraisal, with a precautionary approach adopted when reaching a conclusion.

For those impacts for which likely significant effects cannot be 'screened out' (*i.e*. excluded), further appraisal at the Appropriate Assessment stage will be required.

## 4.2 Impacts with Pathways to European Sites

### 4.2.1 Impacts Screened Out from Further Assessment

On the basis of the initial assessment described in Section 2 of this document, the following possible impacts during deployment and recovery of Marine Survey instruments have been screened out of further appraisal because there is no potential pathway for them to affect the QI's of any European site:

- Impacts on water quality arising from a pollution event by vessel.

Additionally, the following impacts during the operation of the Marine Surveys have been screened out of further appraisal because there is clearly no potential for them to occur on the QI's of any European site:

- Disturbance to QI / SCIs from underwater sound associated with Marine Survey instruments;
- Temporary physical disturbance (*e.g*. physical obstacle or barrier to movement) to QI / SCI's in the immediate vicinity of the Marine Survey instruments; and
- Impacts on water quality arising from a pollution event.

### 4.2.2 Impacts Tested for Likely Significant Effects

Based on the initial assessment described in Section 2 of this report, the following possible impacts will be considered further as potential pathways which could affect QI's of a European site:

- During the deployment and recovery of Marine Survey instruments:
  - Temporary direct loss of or damage (*e.g*. sediment compaction or increased SSC) to QI benthic habitat within a European site; and
  - Temporary physical disturbance (*e.g*., airborne sound or visual disturbance or collision risk) to QI / SCI's in the immediate vicinity of the deployment vessel and Marine Survey instruments
  - Disturbance to QI / SCIs from underwater sound associated with vessels' engines during the Marine Surveys
- During the operation of Marine Survey instruments
  - Temporary direct loss of or damage to QI benthic habitat within a European site;
  - Temporary physical disturbance (*e.g*., airborne sound or visual disturbance or collision risk) to QI / SCI's in the immediate vicinity of the Marine Survey vessels during operation of bathymetric surveys.

[4] People Over Wind and Sweetman v Coillte Teoranta (C-323/17).

## 4.3 Screening Assessment

For each European site within the ZoI of the Marine Surveys, the deployment, recovery, and operational impacts are examined in Table 6 to determine their potential to result in likely significant effects on the QI's.

Information on each European site relevant to the test of likely significant effects, including the list of QI/ SCI, Conservation Objectives, and known existing threats or pressures, was obtained from the National Parks and Wildlife Service (NPWS) website (https://www.npws.ie/).

## Table 6 AA screening assessment for potential for effects on QI and SCI receptors

| Impact Source | European Sites within the Potential ZoI | Potential Effects | Likely Significant Effects? |
|---|---|---|---|
| **Deployment, Operation and Recovery of Marine Survey Instruments** | | | |
| Temporary direct loss of or damage (*e.g.* sediment compaction or increased SSC) to QI benthic habitat within a European site | • Baldoyle Bay SAC;<br>• Boyne Coast and Estuary SAC;<br>• Dundalk Bay SAC;<br>• Lambay Island SAC;<br>• Malahide Estuary SAC;<br>• North Dublin Bay SAC;<br>• Rogerstown Estuary SAC;<br>• South Dublin Bay SAC;<br>• Wicklow Reef SAC; and<br>• Rockabill to Dalkey Island SAC. | Seventeen ADCPs will be deployed within Proposed Licence Areas. Each ADCP will be placed on the seabed within sandy flat habitats only and recovered from the same type of habitat, even if the device is non-responsive. Recovery methods, including the grapple method, will exclusively target sandy flat habitats. The tidal gauges will be installed passively on hardstanding and will therefore not affect the seabed or benthic habitats.<br><br>The small area (less than 1 m²) of sandy habitat (which may be a QI sandy habitat) on which the ADCP will be placed is a dynamic habitat comprising primarily sand and mud which is highly mobile due to ocean currents and wave action. Consequently, given the small size and mobile nature of sandy habitat, any increase in SSC on these sediments are not expected to change the existing baseline which is subject to ongoing current movement and wave actions. Therefore, these habitats are expected to return to their normal baseline conditions once operations cease and the ADCP instruments are removed from the seabed. Additionally, these sediments and habitats host mobile species that can temporarily relocate from the affected area and return after the instruments are removed.<br><br>While European sites designated for QI geogenic and/or biogenic reefs are present within the Proposed Licence Areas the location of these QI geogenic and/or biogenic reef habitats themselves fall outside the Proposed Licence Areas and ADCPs will only be deployed and recovered on flat sediment habitats. Site investigations at the time of deployment will ensure such habitats are avoided by reference to vessel soundings at the time of deployment. | **No** |
| Temporary physical disturbance or injury (*e.g.*, airborne or sound or visual disturbance or collision risk) to QI / SCI's in the immediate vicinity of the deployment vessel and Marine Survey instruments | • Baldoyle Bay SAC;<br>• Boyne Coast and Estuary SAC;<br>• Dundalk Bay SAC;<br>• Lambay Island SAC;<br>• Malahide Estuary SAC;<br>• North Dublin Bay SAC;<br>• River Boyne and River Blackwater SAC;<br>• Rockabill to Dalkey Island SAC;<br>• Rogerstown Estuary SAC;<br>• South Dublin Bay SAC;<br>• The Murrough Wetlands SAC;<br>• Wicklow Reef SAC; | The physical presence of the vessel and Marine Survey instruments during the deployment and recovery phase may result in temporary displacement or injury of SCI birds, QI marine mammals, and QI fish from the vicinity.<br><br><u>QI fish</u><br>The collision risk from a vessel to a QI fish is considered to be extremely unlikely given the highly mobile nature of QI fish and small temporary nature of works and is therefore not expected to have any potential for any likely significant effects on these species.<br><br><u>QI marine mammals</u><br>Vessel movements during the Marine Surveys have the potential for collisions with QI marine mammals. This could result in physical injury, such as propeller injuries, and in the worst-case, mortality (Schoeman, et al., 2020). The exact size and number of | **No** |

| Impact Source | European Sites within the Potential ZoI | Potential Effects | Likely Significant Effects? |
|---|---|---|---|
| | • Codling Fault Zone SAC;<br>• Carnsore Point SAC;<br>• Blackwater Bank SAC<br>• Hook Head SAC;<br>• North Bull Island SPA;<br>• Rockabill SPA;<br>• Rogerstown Estuary SPA;<br>• Baldoyle Bay SPA;<br>• South Dublin Bay and River Tolka Estuary SPA;<br>• Malahide Estuary SPA;<br>• Dundalk Bay SPA;<br>• Lambay Island SPA;<br>• Carlingford Lough SPA;<br>• Boyne Estuary SPA;<br>• Stabannan-Braganstown SPA;<br>• Howth Head Coast SPA;<br>• Ireland's Eye SPA;<br>• Skerries Islands SPA;<br>• Wicklow Head SPA;<br>• River Nanny Estuary and Shore SPA;<br>• Dalkey Islands SPA;<br>• The Murrough SPA; and<br>• River Boyne and River Blackwater SPA. | vessels deployed is subject to the appointment of the survey contractor, however, it is assumed that no more than two vessels will be required; one to deploy and recover the ADCPs and one to vessel-mount and tow the SBES and/or MBES in the Proposed Licence Areas. The Marine Surveys are expected to be completed using vessels which are considered to be small (<25 m). Marine mammals, particularly cetaceans, are fast swimming, agile species, with rapid reflexes and good sensory capabilities (Hoelzel, 2002). The most lethal and serious injuries to cetaceans are believed to be caused by large ships, typically 80 m and longer, as well as vessels travelling faster than 14 knots (Laist, et al., 2001). It is envisioned that the vessels required for the Marine Surveys will be less than 25 m in length and slow moving (*i.e.*, survey speeds of 4 knots and 10 – 15 knots whilst in transit), meaning that individual marine mammals can easily avoid the vessel, greatly reducing the risk of collision.<br><br>Seals regularly spend time at the sea surface or 'hauled out' on land where they rest, breed, and moult, making them more susceptible to airborne sound and visual stimuli. Therefore, vessels could cause airborne or visual disturbance to seals at their haul out sites if operating close to them. Where sites are designated for the protection of seals, the associated haul out sites can support hundreds to thousands of individuals (Morris et al., 2021). Whilst hauling out can occur at any time of the year where seals choose to rest, the greatest aggregations occur during the breeding and moulting seasons. In Ireland, the moulting season for harbour seal is predominantly between August and September and the breeding season for harbour seal is approximately May to July (NPWS, 2013).<br><br>Disturbed seals can exhibit a range of behaviours, from increased alertness to 'flushing', in which disturbed seals flee their haul-out site and return to the water (Wilson, 2014). Studies vary in flushing distance responses with factors such as vessel type and seal habituation significantly influence these responses. One study found that harbour seals flushed when a vessel was within 56 m on average (Calambokidis et al., 1991). While other studies have found seals reacting to cruise ships (averaging 300 m in length) up to 1,000 m away (Jansen et al., 2015). However, overall, these studies indicate that seals typically flush when disturbances occur within roughly 100 meters, though the exact distance varies by location and disturbance type (Seal Conservation Society, 2014, Henry & Hammill, 2001 and Calambokidis et al., 1991). Additionally, guidelines from National Oceanic and Atmospheric Administration (NOAA) Fisheries recommend maintaining a distance of at least 46 m from seals to minimise disturbance (NOAA, n.d).<br><br>The closest seal haul-out site (Lambay Island SAC) is located over 1 km from the Proposed Licence Areas. Therefore, given the distance an infrequent short -term minor use of vessels, the long-term or population-level impacts from vessel disturbance that could affect the conservation objectives of these sites are not anticipated to result in any likely significant effects | |

| Impact Source | European Sites within the Potential ZoI | Potential Effects | Likely Significant Effects? |
|---|---|---|---|
| | | SCI birds<br>The vessels used are expected to be of extremely limited duration and infrequent occurrence. Given that seabirds are highly mobile species with access to a wide range of alternative suitable habitats, it is anticipated that they may temporarily relocate to these areas and return once the disturbance has ceased. Therefore, airborne and visual disturbance caused to any QI bird in the marine environment is not expected to result in any likely significant effects. | |
| Disturbance to QI / SCIs from underwater sound associated with vessels' engines during the marine surveys | • Dublin Bay Complex SAC; | The underwater sound generated by the presence of a vessel during deployment and recovery of Marine Survey instruments can cause physical or auditory injury however, due to the relatively low level intensity of the sound source, and the fact the sound is continuous in nature (rather than high intensity impulsive sounds) it is very unlikely that underwater sound emitted by the vessels engine during the Marine Surveys will cause any physical or auditory injury to any QI marine species.. This is also because both the survey vessels and QI marine species will be mobile and are unlikely to remain close to the sound source for very long.<br><br>Underwater sound from vessels can result in a range of behavioural responses in QI marine mammals, QI fish, as well as avoidance, to chronic levels of underwater sound (Erbe *et al*., 2019). However, the QI marine mammals and QI fish present in the vicinity are highly mobile and, these species are likely to quickly relocate to nearby areas and resume their normal activities once the disturbance subsides. In addition, these QI species are likely to be habituated, to some extent, to vessel noise and movement in a busy sea area such as the waters off the west coast of Ireland (MMO, 2015).<br><br>Therefore, the potential temporary physical disturbance to QI marine mammals and QI fish caused by the deployment vessel and Marine Survey instruments is not expected to have significant effects on these species due to the temporary, small-scale, and localised nature of the Marine Surveys. | **No** |

# 5. In-Combination Assessment

Cumulative (in-combination) effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location (CIEEM, 2022). Effects which arise in-combination with other projects or plans must be considered as part of the AA Screening process. In accordance with OPR (2021) and MARA Technical Guidance Note (2024), the assessment of in-combination effects must examine:

- completed projects;
- projects which are approved but not completed;
- proposed projects (*i.e.* for which an application for approval or consent has been made, including refusals subject to appeal and not yet determined);
- plans that are completed;
- plans approved but not yet completed;
- proposals in adopted plans; and
- proposals in finalised draft plans formally published or submitted for consultation or adoption.

## 5.1 Defining the Cumulative Effects Spatial Scope (CESS)

Since the Marine Surveys are entirely marine-based, the review focused on projects with a marine component or those capable of impacting the marine environment through a source-pathway-receptor link. To evaluate potential cumulative effects, all additional projects within a 5 km radius of the Proposed Licence Areas were considered. This distance was deemed appropriate given the project's scale, scope, and the potential magnitude of its related impacts.

## 5.2 Defining the Cumulative Effects Temporal Scope (CETS)

The temporal scope for assessing cumulative effects has been determined based on the expected duration of the proposed maritime activities. Consequently, the Cumulative Effects Temporal Scope (CETS) is set at five years, aligning with the timeframe proposed for the MUL.

## 5.3 Impact Identification

Based on Table 6, impacts identified for consideration of in-combination effects are:

- temporary direct loss of or damage (*e.g.* sediment compaction or increased SSC) to QI benthic habitat within a European site;
- temporary physical disturbance or injury (*e.g.*, airborne or sound or visual disturbance or collision risk) to QI / SCI's in the immediate vicinity of the deployment vessel and Marine Survey instruments; and
- disturbance to QI / SCIs from underwater sound associated with vessels' engines during the Marine Surveys

## 5.4 Pathway Identification

The potential pathways have been identified in Table 7.

**Table 7. Potential pathways for cumulative impacts from the Marine Surveys**

| Impact | Potential Cumulative Pathway |
|---|---|
| Temporary direct loss of or damage (*e.g.* sediment compaction or increased SSC) to QI benthic habitat within a European site | Pathway requires direct spatial overlap with QI habitats of a relevant European site. Potential pathway for direct loss of or damage to QI benthic habitat where there is a direct CESS and CETS overlap between placement of marine instruments (*i.e.* ADCPs) and any other relevant projects. |
| Temporary physical disturbance or injury (*e.g.*, airborne or sound or visual disturbance or collision risk) to QI / SCI's in the immediate vicinity of the | Pathway possible via man-made light, sound or vibration sources (*e.g.*, from vessels) above water within the CESS and CETS from other above water activities from other projects. |

| Impact | Potential Cumulative Pathway |
|---|---|
| deployment vessel and Marine Survey instruments | |
| Disturbance to QI / SCIs from underwater sound associated with vessels' engines during the Marine Surveys | Possible pathway through underwater sound transmission, with potential effects within the CESS if overlapping with other underwater noise-producing activities. |

## 5.5 Prediction of Likely Cumulative Effects

### 5.5.1 Temporary direct loss of or damage (*e.g.* sediment compaction or increased SSC) to QI benthic habitat within a European site

A number of European sites are located within the Proposed Licence Areas. While the Marine Surveys alone are not expected to have a significant effect on any QI habitat, there is potential for in-combination effects with other projects that may also cause temporary loss of QI habitat within the same European sites. This could contribute to further habitat loss and disturbance. If the Marine Surveys coincide with these projects, the risk of cumulative physical disturbance and habitat loss could increase, potentially leading to significant in-combination effects.

### 5.5.2 Temporary physical disturbance or injury (*e.g.*, airborne or sound or visual disturbance or collision risk) to QI / SCI's in the immediate vicinity of the deployment vessel and Marine Surveys instruments disturbance

There is potential for in-combination effects from temporary physical disturbance from other ongoing activities in the ZoI of the Proposed Licence Areas. If multiple projects are operating simultaneously, the cumulative exposure of QI/SCI species to these disturbances (*e.g*. collision risk, airborne sound or visual disturbances) could increase, leading to heightened stress, behavioural changes, or displacement. Should the Marine Surveys overlap with other projects that contribute to similar disturbances, the risk of significant in-combination effects could rise, potentially resulting in increased physical stress or injury to sensitive species.

### 5.5.3 Disturbance to QI / SCIs from underwater sound associated with vessels' engines during the Marine Surveys

A number of QI/SCI species may be present within the ZoI of the Proposed Licence Areas and could be affected by underwater sound generated by vessel engines during Marine Surveys. While the underwater sound from a vessel used during the Marine Surveys may not have a likely significant effect on these QI species alone, there is potential for in-combination effects if multiple vessels or projects are operating in the same area. Prolonged or repeated exposure to underwater sound from multiple sources could lead to increased stress, behavioural disruptions, or displacement of QI/SCI species from key habitats. If the Marine Surveys coincide with other activities generating underwater noise, the cumulative acoustic disturbance could escalate, increasing the risk of significant in-combination effects that may interfere with critical behaviours such as foraging, communication, or migration.

## 5.6 Identification of Plans or Projects Acting in Combination

A review of the following data sources was carried out to identified other plans/projects which have the potential to act in-combination with the Marine Surveys:

- Marine Plan Database (https://www.marineplan.ie/) which include applications and lease/licence database of the Department of Housing, Local Government and Heritage;
- National Planning Lists (https://data-housinggovie.opendata.arcgis.com/);
- An Bord Pleanála (https://www.pleanala.ie/en-ie/Map-Search);
- Department of the Environment, Climate and Communications Foreshore Licence Lists (https://www.gov.ie/en/foreshore-notices/);
- MARA Maritime Usage Licence Applications database (https://www.maritimeregulator.ie/our-work/maritime-usage-licences/applications/); and
- Further information available through the Department of Agriculture, Food and the Marine with regard to foreshore functions relating to fishery harbour centres, aquaculture and sea-fishing and the European Protection Agency (EPA) regarding Dumping at Sea (DAS) permits were examined (https://gis.epa.ie/EPAMaps/) .

The review of data sources included to identify any planning applications from the last five years within close proximity (*i.e.*, 1 km) of the Proposed Licence Areas. Planning applications that have been identified as having the potential to act in-combination with the Marine Surveys of the Lot 1 Project are detailed in Appendix A, Table 8 with their Foreshore Licence / Maritime Usage License status. No plans have been identified which could give rise to in-combination effects with the possible impacts from the Marine Surveys of the Lot 1 Project.

Where potential effects were identified for any impacts which may arise from the Marine Surveys these were expected to have insignificant effects.

# 6. Appropriate Assessment Screening Statement

In view of best available scientific knowledge and on the basis of objective information, likely significant effects from the Marine Surveys of the Lot 1 Project on European sites, either alone or in-combination with other plans or projects, can be excluded.

Based on the information provided in this Report, there is no requirement to proceed to the next stage of AA or for a Natura Impact Statement to be produced.

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# Appendix A Relevant Planning Applications

### Table 8. Planning search for relevant developments

| Applicant | Data Source | Application Reference Number | Summary of Development | Approximate Distance to the Proposed Licence Areas. | Licence type | Licence Status | Decision Date or Last Updated |
|---|---|---|---|---|---|---|---|
| Oriel Wind Farm, Dundalk Bay, Louth | MarinePlan | FS006840 | Foreshore Licence application for geophysical, geotechnical, ecological and metocean site investigation works. | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Granted | 05/10/2019 |
| Oriel Wind Farm, Louth | MarinePlan | FS007383 | Oriel Windfarm Limited (Oriel) is an Irish renewable energy company developing the proposed Oriel offshore wind farm located in the North-West Irish Sea, 22km off the coast of Dundalk, County Louth. The proposed Oriel offshore wind farm will include wind turbines mounted onto a foundation installed into the seabed, an offshore substation and interlinking cabling between the turbines and the substation and an export cable between the substation and the shore.<br><br>Oriel has applied for a Foreshore Licence to undertake detailed geotechnical and geophysical investigations, ecological surveys and metocean surveys. The purpose of the geotechnical investigation is to investigate the stability of the soil for the design of foundations and the detailed routing of the inter array and export cables. The purpose of the geophysical survey is to characterise the layers of sediment/rock underneath the seafloor and to achieve a detailed seabed morphology and seafloor mapping. Further ecological surveys and measurements of the wind, wave and currents (metocean) will also be undertaken.<br><br>This Foreshore Licence application is for permission to undertake these survey works on the proposed development site. Oriel proposes to apply for a licence for a duration of 36 months. | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Granted | 21/05/2021 |
| Hibernian Wind Power - Cooley | MarinePlan | FS006852 | Foreshore Licence application for site investigation works to inform the development of an offshore windfarm. | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Granted | 04/07/2018 |

| Applicant | Data Source | Application Reference Number | Summary of Development | Approximate Distance to the Proposed Licence Areas. | Licence type | Licence Status | Decision Date or Last Updated |
|---|---|---|---|---|---|---|---|
| Point, Co Louth | | | | | | | |
| SSE Renewables, Braymore Point, Dublin | MarinePlan | FS006973 | Geophysical, Geotechnical and Environmental Site Investigation works | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Granted | 19/03/2019 |
| Lir Offshore Array, off Louth, Meath and Dublin | MarinePlan | FS007392 | The Foreshore Licence application is to undertake surveys and Site Investigations (SI) to inform development and project design for the proposed site. The surveys will be geophysical, geotechnical, environmental and metocean.<br><br>It should be noted the Foreshore Acts 1933 to 2014 allows for the granting of Investigatory Foreshore Licences inside the 12 Nautical Mile limit and, as such, this application relates only to the area within that jurisdiction. | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Applied | 07/12/2021 |
| North Irish Sea Array (NISA) Windfarm, Export Cable Route | MarinePlan | FS007358 | This Foreshore Licence application is for site investigation surveys necessary to determine the seabed and sub-sea conditions to establish the optimum location for and design of the export cable(s) to shore, and to establish the most appropriate route corridor and landfall location for the export cable(s) from the proposed North Irish Sea Array (NISA) offshore wind farm, located off the coasts of Dublin, Meath and Louth. | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Granted | 05/08/2022 |
| Greystones (OWL) Offshore Windfarm | MarinePlan | FS007367 | Greystones OWL Windfarm Limited is proposing to develop an offshore wind farm at a site off the Wicklow/Dublin coast. Greystones OWL Windfarm Limited is seeking to undertake a variety of Marine Surveys at the proposed site to inform the specific location, design and layout of the proposed offshore wind farm and export cable route to shore. | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Applied | 29/06/2022 |
| RWE Renewables, Dublin Array | MarinePlan | FS007188 | Foreshore Licence to undertake geotechnical and geophysical site investigations and ecological, wind, wave and current monitoring to provide further data to refine wind farm design, cable routing, landfall design and associated installation methodologies for the proposed Dublin Array offshore wind farm | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Granted | 13/01/2021 |
| Sunrise Offshore Wind | MarinePlan | FS007151 | Foreshore licence application for site investigation activities to undertake a variety of Marine Surveys at the proposed site in order to inform the specific location, design and layout of the | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Consultation | 23/12/2021 |

| Applicant | Data Source | Application Reference Number | Summary of Development | Approximate Distance to the Proposed Licence Areas. | | Licence type | Licence Status | Decision Date or Last Updated |
|---|---|---|---|---|---|---|---|---|
| Farm, Dublin and Wicklow | | | proposed offshore wind farm and export cable route to shore. The surveys will include geophysical, geotechnical, environmental and metocean campaigns. The site investigation surveys in the proposed Foreshore Licence Application Area will support the development of the proposed Sunrise Offshore Wind Farm. | | | | | |
| Leinster Offshore Wind, Leinster Project, Dublin | MarinePlan | FS007162 | The application for a foreshore licence for Leinster Offshore Wind Limited is to survey a new area for a proposed fixed foundation offshore wind project (the "Leinster Project") in the Irish Sea approximately 14km off the east coast of Ireland. The Leinster Project would be for a development of an offshore wind farm with a likely capacity of around 500MW. The site will use fixed foundation technology (either XXL Monopiles, Jacket/Tripods or a mixture of both). These technologies are proven, fundable and available now.<br><br>The Foreshore Licence application is to undertake the surveys and site investigations to inform development and project design for the proposed site. The proposed foreshore licence area covers the wind farm array area only. A separate Foreshore Licence will be applied for to cover transmission requirements (*e.g.* export cables and landfall) in 2022. | Overlaps the Licence Areas | Proposed | Maritime Usage Licence | Applied | 02/10/2020 |
| ESB, Sea Stacks Offshore Wind, Dublin and Wicklow | MarinePlan | FS007134 | ESB Wind Development Limited have applied for a Licence to carry out site investigations relating to a possible wind farm on a site named "Sea Stacks Offshore Wind", situated off the coasts of Dublin and Wicklow.<br><br>This foreshore application relates to the Site Investigation works only. These activities are required to inform: the overall project feasibility; the conditions at site and along the cable route; the various assessments required to progress the project; and the development of the project. | Overlaps the Licence Areas | Proposed | Maritime Usage Licence | Consultation | 23/11/2023 |
| RWE Renewables, Dublin Array at Kish and Bray Banks | MarinePlan | FS007029 | Application for a Site Investigation Licence to carry out Geophysical Surveys, Geotechnical Surveys, Ecological Surveys and Wind and Metocean Surveys | Overlaps the Licence Areas | Proposed | Maritime Usage Licence | Granted | 28/01/2021 |

| Applicant | Data Source | Application Reference Number | Summary of Development | Approximate Distance to the Proposed Licence Areas. | Licence type | Licence Status | Decision Date or Last Updated |
|---|---|---|---|---|---|---|---|
| Mac Lir Offshore Wind, Benthic Ecology Survey in Export Cable Corridor, off Wexford, Wicklow and Dublin | MarinePlan | FS007472 | Mac Lir Offshore Wind Limited is seeking to undertake benthic ecology surveys within a potential offshore export cable corridor area. The proposed surveys will be conducted on the shoreline and in the marine area and are routine in establishing the baseline benthic ecology conditions for areas for a number of purposes including conservation, environmental status and in this particular case to support the Environmental Impact Assessment Report for the proposed Mac Lir Offshore Wind Farm | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Applied | 22/09/2022 |
| Codling Wind Park, Wicklow and Dublin | MarinePlan | FS007546 | The main aims and objectives of the proposed activities are to:<br>• Provide up to date detailed bathymetric mapping of the seabed;<br>• Provide further information on the soil stability and morphology of the seabed;<br>• Provide detailed information on ground conditions and geology;<br>• Obtain up to date wind resource and metocean data for the site; and<br>• To generate environmental and ecological data to inform the EIA and AA for the Codling Wind Park project. | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Granted | 19/05/2022 |
| Codling Wind Park Offshore Wind Farm, Wicklow | MarinePlan | FS007045 | Codling Wind Park - Site Investigation Licence Application to inform the design of a possible windfarm at this site | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Granted | 22/04/2020 |
| RWE Renewables, Dublin Array | MarinePlan | FS007588 | Foreshore Licence to undertake geotechnical and geophysical site investigations and ecological, wind, wave and current monitoring to provide further data to refine wind farm design, cable routing, landfall design and associated installation methodologies for the proposed Dublin Array offshore wind farm. | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Granted | 13/01/2023 |
| Latitude 52 Offshore Wind Farm, | MarinePlan | FS007232 | Latitude 52 Offshore Wind Farm Ltd. is applying for a licence to undertake a full suite of site investigations at a site in the west Irish Sea off the coast of County Wicklow and County Wexford. This includes hydrographical and geophysical survey activities (MBES, SSS, SBP, Magnetometer), geotechnical survey activities | Overlaps the Proposed Licence Areas | Maritime Usage Licence | Applied | 22/12/2021 |

| Applicant | Data Source | Application Reference Number | Summary of Development | Approximate Distance to the Proposed Licence Areas. | | Licence type | Licence Status | Decision Date or Last Updated |
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| Wicklow and Wexford | | | (boreholes, vibrocores and cone penetration tests) and ecological survey activities (incl. benthic and intertidal sampling, CPODs, Soundtraps) as well as potential deployment of metocean devices (Floating LiDAR, ADCPs and Wave Buoys). | | | | | |
| Energia Offshore Wind, South Irish Sea, Wexford | MarinePlan | FS007048 | The proposed activity involves various Marine Surveys to assist in the selection of the optimum offshore wind farm location and onshore cable route for a proposed 600 - 1,330MW offshore wind farm off the Co. Wexford coastline. | Overlaps the Licence Areas | Proposed | Maritime Usage Licence | Granted | 10/07/2019 |
| Shelmaler e Offshore Wind Farm - Site Investigati ons off Counties Wexford and Wicklow | MarinePlan | FS007261 | Foreshore Licence for Site Investigations to inform the engineering and design of a potential offshore wind farm and associated export cable route. | Overlaps the Licence Areas | Proposed | Maritime Usage Licence | Consultation | 30/11/2020 |
| Farraige Renewabl es Ltd. – Site Investigati ons for proposed offshore wind farm, off County Wexford | MarinePlan | FS007074 | This Foreshore licence application relates to proposed site investigations on the proposed development site. This application is intended to cover all site investigation activities required to progress an offshore wind farm concept to detailed design stage. | Overlaps the Licence Areas | Proposed | Maritime Usage Licence | Applied | 25/11/2019 |
| Dublin Array Wind Farm | Dept of Housing, National Marine Planning Framework | FS007188 | Foreshore Licence to undertake geotechnical and geophysical site investigations and ecological, wind, wave and current monitoring to provide further data to refine wind farm design, cable routing, landfall design and associated installation methodologies for the proposed Dublin Array offshore wind farm. | Overlaps the Licence Areas | Proposed | Foreshore Licence | Granted | 13/01/2023 |

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| Wicklow County Council - Wicklow Port Dredging | Gov.ie (Department of the Environment, Climate and Communications) | FS007583 | Areas within Wicklow Port accrete sediment over time, with variability in the rates of sedimentation experienced. The situation over recent years has let to a significant deterioration of the navigational levels, particularly in the approach channel. Wicklow County Council is seeking to establish a long-term sustainable dredging strategy. However, in the meantime action is required to ensure safe navigation to and from the port can occur. Failure to do this will hinder both trade and safety. Therefore, this application is submitted to facilitate bed-levelling the approach channel to the port and the potential removal of sediments to shoreside location for subsequent management (beneficial use or waste facility). | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 26/04/2024 |
| Tech Works Marine Ltd Data Buoy Deployment | Gov.ie (Department of the Environment, Climate and Communications) | FS007180 | Foreshore licence application for the deployment of a small Data Buoy with multiple environmental (non-acoustic) sensors to test communications technology for data acquisition. | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 12/04/2025 |
| Arklow Bank Wind Park off coast of County Wicklow | Gov.ie (Department of the Environment, Climate and Communications) | FS007555 | Sure Partners Limited is the company developing the proposed Arklow Bank Wind Park.<br>The submitted licence application is in respect of site surveys at the Foreshore Licence Area as part of an ongoing survey schedule for Arklow Bank Wind Park to maintain up to date baseline information for the site. | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 09/06/2024 |
| Péarla Offshore Wind Limited - Site Investigations For Export Cable Corridor For A Proposed Offshore Wind Project | Gov.ie (Department of the Environment, Climate and Communications) | FS007621 | Péarla Offshore Wind Limited are applying for a Foreshore Licence to undertake surveys and investigations to inform the route of installation of an export cable corridor to connect a proposed fixed foundation offshore wind project (the “Péarla Project”) in the Celtic Sea (approximately 44km off the coast of Waterford at the nearest point) to the grid. | Overlaps the Proposed Licence Areas | Foreshore Licence | Applied | 24/03/2023 |

| Applicant | Data Source | Application Reference Number | Summary of Development | Approximate Distance to the Proposed Licence Areas. | Licence type | Licence Status | Decision Date or Last Updated |
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| MaresConnect Electricity Interconnector Site Investigation | Gov.ie (Department of the Environment, Climate and Communications) | FS007635 | Foreshore license application for marine investigative survey works for the MaresConnect Ltd (MCL) Interconnector.<br>The proposed works includes surveys 50m landward of the high-water mark to overlap with the terrestrial survey works. | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 23/08/2024 |
| Rush Sailing Club Landing Pontoon | Gov.ie (Department of the Environment, Climate and Communications) | FS006984 | Foreshore lease application for the construction of a new disability access landing pontoon to include new floating pontoon, access gangway, landing area, and alterations to existing boundary sea wall, boundary wall, and footpath to accommodate same, and associated site works. | Overlaps the Proposed Licence Areas | Foreshore Licence | Consultation | 27/06/2024 |
| Uisce Éireann (Irish Water) Benthic Survey | Gov.ie (Department of the Environment, Climate and Communications) | FS007605 | Foreshore licence application to conduct a benthic survey of the proposed outfall pipeline (marine section) area and its environs associated with the Greater Dublin Drainage Project. | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 15/05/2024 |
| Site Investigations by Wicklow Sea Wind Ltd for Cable Route off County Wicklow | Gov.ie (Department of the Environment, Climate and Communications) | FS007588 | Inis Offshore Wind Limited with the support of Warwick Energy has identified projects that could support the Irish Government's Climate Action Plan and 5 GW capacity targeted for 2030. The foreshore license application for Wicklow Sea Wind Limited is to survey an area suitable for the installation of an export cable corridor to connect a proposed fixed foundation offshore wind project in the Celtic Sea (approximately 8km off the east coast of Wicklow) to the grid. The Foreshore License application is to undertake the surveys and investigations to inform the route of the export cable corridor. The cable AoS covers the transmission assets area only. A separate Foreshore License was submitted (Wicklow Foreshore License Application: Reference: FS007163) in 2021 to cover the offshore wind generation assets. | Overlaps the Proposed Licence Areas | Foreshore Licence | Consultation | 15/05/2024 |
| Wicklow Sea Wind Ltd., Site Investigations for the proposed | Gov.ie (Department of the Environment, Climate and | FS007436 | The Foreshore Licence application is to undertake surveys and site investigations to inform development and project design for the proposed site. The surveys will gather further information on: seabed and sub-seabed conditions; geotechnical data on the stability of soils, sediments, clays and gravels to allow the characterisation of the sub-seabed strata to inform design; wind | Overlaps the Proposed Licence Areas | Foreshore Licence | Consultation | 15/05/2024 |

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| Wicklow Project offshore wind farm, | Communications) | | and metocean (wave, current, tide and water levels) information; provide the project team with baseline information on the environmental conditions at the site, including marine ecology, bird, mammals and benthos; provide the project team with information on the archaeological conditions at the site. | | | | |
| Broadmeadow Way Greenway | Gov.ie (Department of the Environment, Climate and Communications) | FS006909 | Fingal County Council proposes to develop the Broadmeadow Way, a new greenway (shared footpath and cycleway) between Malahide Demesne and Newbridge Demesne via the railway causeway across the Malahide Estuary. The proposed greenway would be c. 6km in length. Much of the the proposed greenway follows existing pathways and roads. | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 14/05/2024 |
| Dublin City Council Outfall Culvert | Gov.ie (Department of the Environment, Climate and Communications) | FS005691 | Foreshore application in respect of the construction of a supplementary outfall culvert. | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 08/04/2022 |
| Drogheda Port Company - Maintenance Dredging Temporary | Gov.ie (Department of the Environment, Climate and Communications) | FS007359 | Foreshore temporary licence application for maintenance dredging of the commercial estuary and seaward approaches to the River Boyne | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 15/12/2021 |
| Dublin Port Capital Dredging Project | Gov.ie (Department of the Environment, Climate and Communications) | FS007164 | Foreshore application in respect of Capital Dredging at various locations around Dublin Port | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 09/01/2024 |
| Dundalk Port Maintenan | Gov.ie (Department of the Environment, Climate and | FS007223 | Foreshore licence application for Maintenance dredging | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 25/11/2022 |

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| ce Dredging | Communications) | | | | | | |
| Dublin Port Maintenance Dredging | Gov.ie (Department of the Environment, Climate and Communications) | FS007132 | Foreshore application in respect of maintenance dredging at various locations in Dublin Port for the years 2022 to 2029. | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 12/08/2022 |
| Sure Partners Arklow Bank Wind Park Phase 2 Site Investigations | Gov.ie (Department of the Environment, Climate and Communications) | FS007339 | Sure Partners Limited are applying for a licence to carry out site investigations relating to a possible offshore windfarm off the coast of Wicklow at Arklow Bank. The objectives of the site investigations are to gather sufficient geotechnical information to develop a detailed ground model and to gather refined information on the wind resource | Overlaps the Proposed Licence Areas | Foreshore Licence | Granted | 27/05/2022 |
| Wicklow County Council - Pontoon at Wicklow Town | Gov.ie (Department of the Environment, Climate and Communications) | FS007013 | Foreshore application for the installation, use and maintenance of a floating pontoon, gangway and associated infrastructure. | Overlaps the Proposed Licence Areas | Foreshore Licence | Consultation | 15/05/2024 |
| Ravensburg Ltd | Gov.ie (Department of the Environment, Climate and Communications) | FS006433 | Foreshore application for the construction of a public boardwalk with a reinforced glazed flood defence wall on top of the quay wall. | Overlaps the Proposed Licence Areas | Foreshore Licence | Consultation | 15/05/2024 |
| Irish Water - Dun Laoghaire | Gov.ie (Department of the Environment, Climate and Communications) | FS006543 | Foreshore licence application for extending the storm water outfall out to the sea below the MLWS | Overlaps the Proposed Licence Areas | Foreshore Licence | Consultation | 15/05/2024 |

| Applicant | Data Source | Application Reference Number | Summary of Development | Approximate Distance to the Proposed Licence Areas. | Licence type | Licence Status | Decision Date or Last Updated |
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| Bray Offshore Wind Ltd | Gov.ie (Department of the Environment, Climate and Communications) | FS006463 | Foreshore Lease application to occupy an area of the foreshore for the purpose of constructing an offshore wind farm of up to 210MW potential consisting of 70 turbines with a maximum height of 160m and rotor diameter of up to 120m. | Overlaps the Proposed Licence Areas | Foreshore Licence | Applied | 15/05/2024 |
| Wicklow County Council | Gov.ie (Department of the Environment, Climate and Communications) | FS005762 | Foreshore licence application for dredging | Overlaps the Proposed Licence Areas | Foreshore Licence | Applied | 15/05/2024 |
| Greenwire Ltd - Skerries | Gov.ie (Department of the Environment, Climate and Communications) | FS005722 | Foreshore licence application for site investigations | Overlaps the Proposed Licence Areas | Foreshore Licence | Applied | 15/05/2024 |
| Microsoft Ireland Operations Ltd | MARA website | LIC230018 | Geophysical survey and site investigations for a proposed subsea fibre optic cable having a landfall in Portmarnock, County Dublin to evaluate options for the route traversing the Irish Sea to Abergele, Wales. | Overlaps the Proposed Licence Areas | Marine Usage Licence | Granted | 03/07/2024 |
| Microsoft Ireland Operations Ltd | MARA website | LIC230016 | Geophysical survey and site investigations for a proposed subsea fibre optic cable having a landfall in Dublin Port, County Dublin and to evaluate options for the route traversing Dublin Bay, across the Irish Sea to Anglesey, Wales. | Overlaps the Proposed Licence Areas | Marine Usage Licence | Granted | 28/06/2024 |
| North Irish Sea Array Windfarm Limited | MARA website | LIC230001 | Site investigation activities to inform the development of the North Irish Sea Array (NISA) offshore windfarm (OWF) and export cable, off the coasts of counties Dublin, Meath and Louth. | Overlaps the Proposed Licence Areas | Marine Usage Licence | Granted | 02/09/2024 |
| Dublin City Council | MARA website | LIC230007 | Environmental survey and ground investigation works in order to inform the design of proposed Point Bridge and Tom Clarke Widening Project. | Overlaps the Proposed Licence Areas | Marine Usage Licence | Consultation | 22/01/2024 |

| Applicant | Data Source | Application Reference Number | Summary of Development | Approximate Distance to the Proposed Licence Areas. | Licence type | Licence Status | Decision Date or Last Updated |
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| MaresConnect Ltd | MARA website | MUL240008 | The proposed maritime usage involves conducting site investigation surveys to assess various factors, including seabed suitability and stability for routing cables and other electrical infrastructure associated with the interconnector project from the 12 nautical mile (nm) limit to the EEZ. A Foreshore Licence (reference FS007635) was already granted for conducting site investigation surveys from Mean High Water (MHW) to the 12 nm limit. | Overlaps the Proposed Licence Areas | Marine Usage Licence | Consultation | 28/06/2024 |
| Iarnród Eireann | MARA website | MUL240023 | To undertake a Geotechnical Investigation, Geophysical site investigation surveys, ecology and marine archaeology surveys to inform design options for the proposed East Coast Rail Infrastructure Protection Projects (ECRIPP). | Overlaps the Proposed Licence Areas | Marine Usage Licence | Applied | 01/05/2024 |
| Bremore Port, Bremore Ireland Port Designated Activity Company (BIPDAC) | MARA website | MUL240011 | Site investigations to inform the location and design of a proposed port infrastructure. The site investigations will include marine geophysical, geotechnical, environmental, metocean and archaeological surveys. | Overlaps the Proposed Licence Areas | Marine Usage Licence | Applied | 23/07/2023 |
| EirGrid plc, | MARA website | MUL240010 | Site investigation works to inform the engineering design and environmental assessments of a proposed electrical cable circuit crossing Dublin Bay from Blackrock Park to Shellybanks | Overlaps the Proposed Licence Areas | Marine Usage Licence | Applied | 05/09/2024 |