



Nicholas O'Dwyer Ltd

Supporting Information for Screening for Appropriate Assessment Report

Rosslare Coastal Erosion & Flood Relief Scheme (CEFRS)

81587

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ACRONYMS AND DEFINITIONS

Acronym	Definition
AA	Appropriate Assessment
CEFRS	Coastal Erosion and Flood Relief Scheme
COs	Conservation Objectives
CPT	Cone Penetration Tests
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ERT	Electrical Resistivity Tomography
EU	European Union
HSE	Health, Safety and Environment
MARA	Maritime Area Regulatory Authority
MBES	Multibeam Echo Sounder
MUL	Maritime Usage Licence
NIS	Natura Impact Statement
NOD	Nicholas O'Dwyer Ltd
NPWS	National Parks and Wildlife Service
PTS	Permanent Threshold Shift
QI	Qualifying Interests
SAC	Special Areas of Conservation
SBP	Sub-Bottom Profiler
SI	Site Investigations
SISAA	Screening for Appropriate Assessment
SPA	Special Protection Areas
S-P-R	Source-Pathway-Receptor
SSC	Suspended Sediment Concentrations
SSCO	Site-Specific Conservation Objectives
SSS	Side-Scan Sonar
TTS	Temporary Threshold Shift

1 INTRODUCTION

1.1 Overview

Wexford County Council (WCC) intends to apply to the Maritime Area Regulatory Authority (MARA) for a Maritime Usage Licence (MUL) to conduct marine site investigations and environmental surveys within two areas adjacent to the townlands of Burrow and Hopeland (area A), and adjacent to the townlands of Warren Lower, Warren Middle, Doogans Warren, Rosehill and Hill of Sea (area B), in the vicinity of Rosslare, Ireland (Figure 2.1)

This report has been prepared as part of the MUL application process. The proposed survey works are designed to provide high quality baseline data that will contribute to site selection and any subsequent design, Environmental Impact Assessment Report (EIAR), and Appropriate Assessment (AA), undertaken for the Rosslare Coastal Erosion and Flood Relief Scheme (CEFRS) project; in the event that a site is taken forward to the planning/consenting stage.

1.2 Purpose of the report

This document has been prepared by RSK Environment Ltd. (RSK) on behalf of WCC in support of the MUL Application to the MARA. The goal of this report is to provide supporting information necessary for the MARA to reach a Screening for AA Determination. It considers whether the proposed works, alone or in combination with other projects, could adversely affect the integrity of European sites in view of the best scientific knowledge and the conservation objectives of the sites. This report contains an analysis of the likely adverse effects for the proposed site survey and investigation work which are required to inform the site selection and engineering design. The results of the site survey and investigation work will also be used to provide baseline data for any subsequent EIAR and AA Natura Impact Statement (NIS) should the development be taken forward to the planning/consenting stage.

1.3 Statement of Authority

This report has been prepared by RSK on behalf of WCC. The technical competence of the authors is outlined below:

Andrew Bendell is an Associate Director within RSK's International Projects Group Marine Team. He has over 25 years of experience in marine environmental surveying and consulting. He holds an honours degree in Marine Biology and Oceanography and a Masters degree in Marine Resource Development and Protection. He has particular experience in marine ecology surveys, and the subsequent analysis and reporting of marine survey data for Environmental Impact Assessment (EIA) projects, and AA and Annex IV species reports.

Jordan Featherstone is a Marine Consultant within the RSK's International Projects Group Marine Team in RSK. She has over 5 years of experience in the marine environmental field. She holds an honours degree in Ocean Science and Marine

Conservation, and a Masters degree in Environmental Consultancy. She has contributed to numerous marine environmental projects including marine site visits, marine sample and data collection, AA Screening and EIA chapters.

This Supporting Information for Screening for Appropriate Assessment (SISAA) report has been prepared in compliance with the legislative and policy requirements described below.

1.4 Legislation

1.4.1 European legislation

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive) provides protection for habitats and species of European importance; Council Directive 79/409/EEC (the Birds Directive) aims to protect all 500 wild bird species naturally occurring in the European Union (EU). Areas designated for protection under the Habitats Directive are described as Special Areas of Conservation (SAC) and those designated under the Birds Directive, as Special Protection Areas (SPA) and the sites are known collectively as Natura 2000 sites (see Section 1.4.2.5). As each member of the EU is required to designate areas in their jurisdictions, the establishment of this network of Natura 2000 sites under Articles 3 to 9 of Directive 92/43/EEC is the key measure to protect nature and biodiversity in the EU.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to have a significant effect on or to adversely affect the integrity of Natura 2000 sites. Article 7 of the Habitats Directive extends the scope of its Articles 6(3) and 6(4) to the Birds Directive.

Article 6(3) establishes the requirement for AA:

“Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site’s conservation objectives. Considering the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the public.”

Further detail on the stages of AA is provided in Section 3.2 of this report.

Each Natura 2000 site has assigned Conservation Objectives (COs) and a list of Qualifying Interests (QI). The CO concept appears in the eighth recital of Directive 92/43/EEC which reads: *“whereas it is appropriate, in each area designated, to implement the necessary measures having regard to the conservation objectives pursued”*. Article 1 then explains that *“conservation means a series of measures required to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable status”*.

The National Parks and Wildlife Service (NPWS) has established COs for each Natura 2000 site in Ireland. These are published on their website. NPWS advise in the general introductory notes of their Site-Specific Conservation Objectives (SSCO) series publications, that an AA based on their *“published conservation objectives will remain*

valid even if the CO targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out”.

NPWS advise that to assist in that regard, it is essential that the date and version are included when objectives are cited.

1.4.2 National legislation

1.4.2.1 Maritime Area Planning Act

The Maritime Area Planning Act, 2021 (updated 2 October 2025) established the MARA. One of the functions of MARA is to consider licence applications and the granting of licences.

Schedule 7 of the Maritime Area Planning Act, 2021 (as amended) lists maritime usages which may be undertaken in the maritime area pursuant to licence. Of relevance to this site investigation project are the following items within Schedule 7:

3. Marine environmental surveys for the purposes of site investigation or in support of an application under Part XXI of the Act of 2000.
6. The deposit of any substance or object, either in the sea or on or under the seabed, from:
 - a) a vehicle, vessel (including a craft capable of travelling on, in or under water, whether or not self-propelled), boat, aircraft or marine structure (other than a pipeline).
7. The use of a vehicle, vessel (including a craft capable of travelling on, in or under water, whether or not self-propelled), boat, aircraft, marine structure (other than a pipeline) or floating container to remove any substance or object from the seabed.
11. The deposit, construction or removal of any mooring not requiring authorisation under any other enactment.
12.
 - a) The removal of beach material from, or the disturbance of beach material in, the maritime area otherwise than in the course of the ordinary or reasonable recreational enjoyment of the maritime area.
 - b) In this paragraph, “beach material” means sand, clay, gravel, shingle, stones, rocks, mineral substances, seashells, coral and maerl and any flora, in or on the surface of the seabed or suspended in the water of the maritime area, and includes outcrops of rock or any other mineral substance above the surface of the seabed.

NOD is applying to MARA for the grant of a licence for the above Schedule 7 usages, as more fully described in Section 2 of this report.

1.4.2.2 Requirements in relation to AA

The following definitions in relation to AA are included in Section 2(1) of the Maritime Area Planning Act, 2021 (as amended):

“screening for appropriate assessment” shall be construed in accordance with, as appropriate—

- a) section 177U of the Act of 2000, or
- b) Part 5 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011)

“appropriate assessment” shall be construed in accordance with, as appropriate—

- a) section 177V of the Act of 2000, or
- b) Part 5 of the European Communities (Birds and Natural Habitats) Regulations (S.I. No. 477 of 2011).

Where the Act of 2000 refers to the Planning and Development Act 2000 (as amended), Act of 2024 refers to the updated Planning and Development Act 2024.

The European Communities (Birds and Natural Habitats) Regulations 2011 have also been amended.

Under Section 112 of the Maritime Area Planning Act, 2021 (as amended), MARA has been designated as a competent authority for the purposes of Part 5 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011); and appropriate assessments to which that Part applies.

MARA is required to carry out a screening for AA in accordance with Section 117(4)(a) of the Act.

Where MARA determines that an AA is required it shall carry out the AA in accordance with Section 117(7)(a) of the Act.

1.4.2.3 Screening out for AA

Under Section 214 of the Planning and Development Act 2024 (as amended), the competent authority shall determine that an AA of a proposed development **is not required** if it can be excluded, 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.

Under Regulation 42(7) of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) the public authority shall determine that an AA of a project **is not required** where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it can be excluded on the basis of objective scientific information following screening that the project, individually or in combination with other plans or projects, will have a significant effect on a European site.

1.4.2.4 Screening in for AA

Under Section 214 of the Planning and Development Act 2024 (as amended), the competent authority shall determine that an AA of a proposed development **is required**

if it cannot be excluded, 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.

Under Regulation 42(6) of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) the public authority shall determine that an AA of a plan or project **is required** where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.

Where the competent authority determines that an AA is required, they shall make a determination under Article 6.3 of the Habitats Directive as to whether or not the proposed development would adversely affect the integrity of a European site and an appropriate assessment shall be carried out by the competent/public authority before consent is given for the proposed development (see Section 214 of the Planning and Development Act 2024 (as amended) and Regulation 42(11) European Communities (Birds and Natural Habitats) Regulations 2011 (as amended)).

1.4.2.5 *European sites and Natura 2000 sites*

The term European site is defined in the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) as:

“European Site” means—

- a) a candidate site of Community importance
- b) a site of Community importance
- c) a candidate special area of conservation
- d) a special area of conservation
- e) a candidate special protection area, or
- f) a special protection area.

The term Natura 2000 site is defined in the same Regulations as:

“Natura 2000” means the European network of SACs under the Habitats Directive and SPAs under the Birds Directive, provided for by Article 3(1) of the Habitats Directive and, for the purposes of these Regulations, includes European Sites.

The two terms are often used interchangeably. For the purposes of this report, the term European site is used.

2 PROJECT DESCRIPTION

2.1 Site location

The MUL area covers a total area of 16.47 km² and is split into two separate areas of 0.74 km² (area A) and 15.73 km² (area B). The works described in this application relates solely to the Site Investigations (SI) and environmental sampling works within the proposed MUL Area (Figure 2.1). Marine SI and environmental surveys are required to inform preliminary design and facilitate environmental assessment in advance of a development application for the Rosslare CEFRS project.

2.2 Description of the works

2.2.1 Overview

The objective of the proposed surveys is to provide high-quality data that can contribute to a reliable baseline for project design and development, as well as informing the EIAR. The exact scope of the SI works will be refined as the project design progresses and as such it is not yet possible to confirm precisely which surveys will ultimately be required. Accordingly, the surveys listed below are currently considered potentially necessary (see Table 2.1); including:

- drop-down camera survey
- geophysical survey, including:
 - magnetometer
 - Sub-Bottom Profiler (SBP)
 - Side-Scan Sonar (SSS)
 - Multibeam Echo Sounder (MBES)
 - marine refraction seismic
 - marine Electrical Resistivity Tomography (ERT)
- boreholes
- Cone Penetration Tests (CPTs)
- grab samples
- surface water samples
- intertidal walkover survey
- intertidal core samples
- archaeological surveys and other investigations (i.e. underwater inspections, walkovers, metal detectors, dive surveys)
- deployment of metocean monitoring buoys to collect physical oceanographic data.

These works are collectively referred to as the SI works throughout this report. Indicative sampling locations within the MUL area are intended to support the development of flood relief measures along Burrow Road and coastal erosion protection measures at Rosslare Strand (i.e. groynes, revetments, beach nourishment). It should be noted that all locations shown for sampling within the proposed MUL Area are indicative and may be subject to a degree of change on-site.

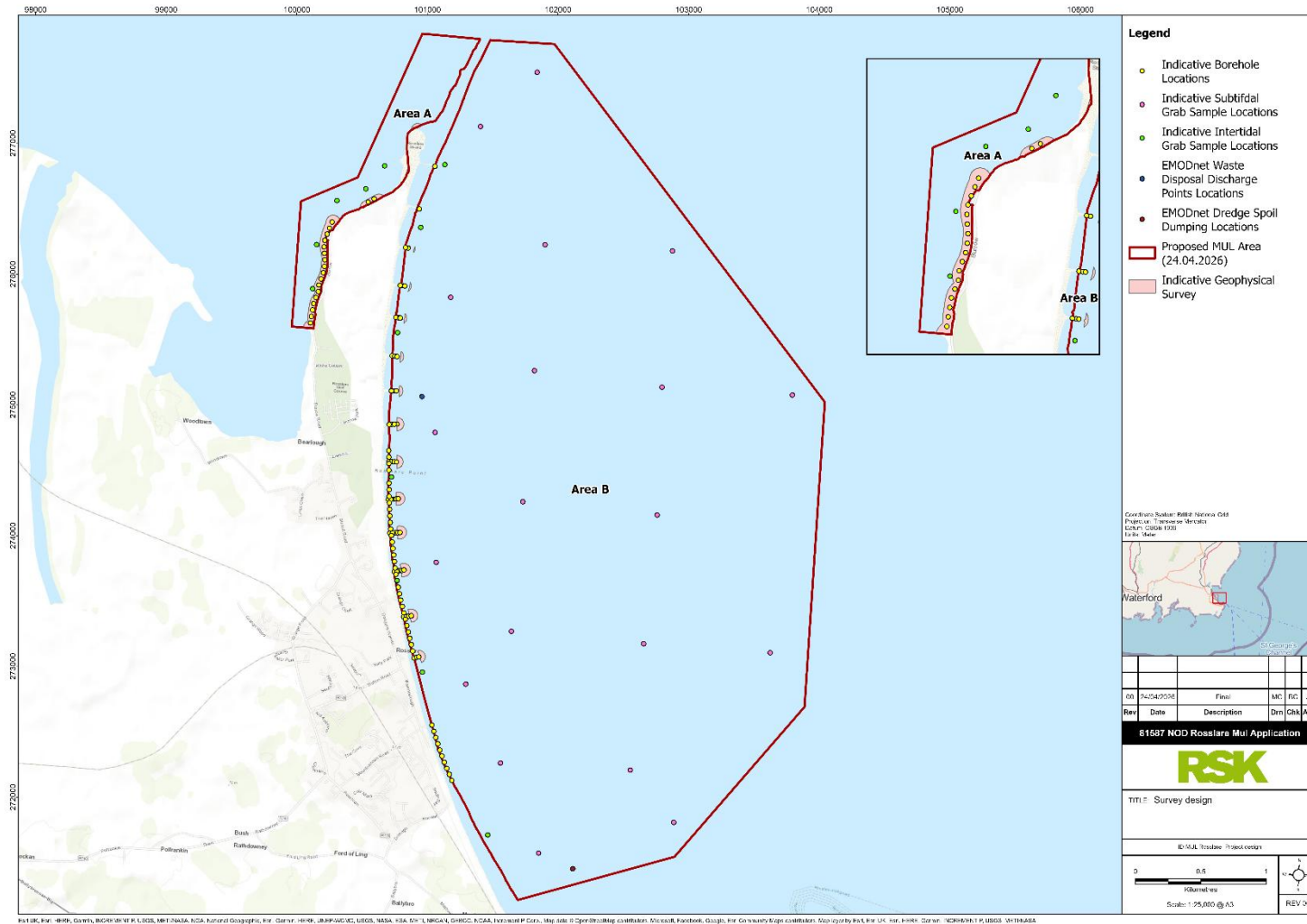


Figure 2.1: Indicative geophysical survey and sampling locations within the MUL area

The following drawings have been prepared in support of the MUL application to the MARA and are included in this assessment to provide further project details description to support the screening assessment for AA:

- proposed MUL area map
- proposed survey design map
- SI indicative table of coordinates.

The exact technical specification of the equipment to be used will not be known until the survey contract has been awarded. However, descriptions of typical equipment and survey parameters have been used within this report.

Predicted duration of the surveys and survey footprint is outlined in Table 2.2.

It is noted that the requirement for additional and more refined works may arise as the SI works progress and are analysed. This may include areas of particular interest using more targeted techniques and/or refined borehole locations and quantities.

There will be no permanent structures and all site investigation works will be temporary in nature. The moving marine plant will remain on site for the duration of the works.

2.2.2 Site investigations schedule

The intention is to begin SI activities as soon as feasible following MUL award. Timing of the SI activities is dependent on many factors including weather, tidal flows, availability of vessels and the award and any conditions of the MUL. The award of the MUL will have a direct effect on the timing of SI activities. The duration of the SI works is approximately 16 weeks and are currently scheduled to begin in Q3 2026, with an anticipated deployment of metocean buoys for a maximum duration of 6 months. The proposed licence duration is requested for 3 years to account for potential delays in the consenting process.

A description of the proposed equipment to be used is given below and summarised in Table 2.1.

2.2.3 Survey vessel

A multipurpose workboat will be used, based on a suitable vessel being available at the time of mobilisation. It is considered that a shallow draught vessel, suitable for survey support and operations requiring frequent manoeuvring in confined waters will be used. A suitable vessel in the range of 16 m with a shallow draught and gross tonnage of ~45 is assumed.

Table 2.1: Description of proposed works

Survey	Method	Method details	Sampling effort
Geophysical (up to 16 weeks)	SSS	<p>SSS is a device that transmits sound pulses that provide the information required to map the seabed. It differs from MBES in that SSS has a finer beam width and smaller footprint to MBES and therefore higher resolution. It is generally towed behind the vessel very close to the seabed and emits fan-shaped acoustic pulses directed down toward the seafloor which are recorded as a series of cross tracks.</p> <p>The sound frequencies used by side-scan sonar generally range from 100 to 1000 kHz; higher frequencies yield better resolution but less range.</p>	<p>SSS may be used across area A and B of the proposed MUL area where required, to a suitable percentage coverage as part of the geophysical survey. This activity is anticipated to occur within daylight hours over a period of up to 10 days.</p>
	Magnetometer	<p>A magnetometer is used to identify magnetic anomalies and hazard mapping for metal obstructions, shipwrecks and unexploded ordnance on the surface and in the shallow sub-surface. The Geometrics G-882 can be taken as an indicative equipment example. It is a passive device (i.e. it does not emit any sound waves into the marine environment) the sensor responds to local variability in magnetic field. The magnetometer will be towed behind a small survey vessel using 20 m spacing of main lines and cross lines at 100 m spacing.</p>	<p>Magnetometer survey may be undertaken across area A and B of the proposed MUL area where required, to a suitable percentage coverage. This activity is anticipated to occur within daylight hours over a period of up to 10 days.</p>
	SBP – parametric	<p>SBP is used to develop an image of the subsurface, identifying different strata encountered in the shallow sediments. The proposed equipment comprises a Knudsen Chirp system or similar which transmit a sweep of frequencies (e.g. 2-10 kHz) in a single pulse. Depending on the profile of the seabed (rock, sand, mud etc.) and level of compaction, the energy reflected back can be related to the sub-bottom composition; which would be used in both nearshore and offshore areas.</p>	<p>Parametric SBP may also be used across area A and B of the proposed MUL area where required, to a suitable percentage coverage as part of the geophysical survey. This activity is anticipated to occur within daylight hours over a period of up to 10 days.</p>

Survey	Method	Method details	Sampling effort
	SBP – boomer	<p>A SBP boomer is an instrument used to image sediment layers beneath the seafloor. The Applied Acoustics AA301 is an indicative example of a boomer, the instrument consists of a piezo electric plate transducer mounted on a surface tow catamaran frame. Reflected sound signals are recorded using a separate hydrophone such as the Applied acoustics HYD-360/08 (50 m). The Boomer SBP operates in a frequency range of 85-115 kHz and 2-22 kHz, respectively, and sound pressure levels of up to 232 dB (typically operated at <200 dB re1µPa @ 1 m) which would be used in the nearshore shallower area. The SBP will be towed behind a small survey vessel using 20 m spacing of main lines and cross lines at 100 m spacing.</p>	<p>A SBP boomer may also be used across area A and B of the proposed MUL area where required, to a suitable percentage coverage as part of the geophysical survey. This activity is anticipated to occur within daylight hours over a period of up to 10 days.</p>
	SBP - sparker	<p>A SBP sparker is an instrument used to image sediment and rock layers beneath the seafloor, it has a similar purpose to that of the boomer described above but is designed when deeper penetration is required. The applied Acoustics Dual 400 Tip is an indicative example of a sparker system used in sub-bottom profiling. Reflected sound signals are recorded using a separate hydrophone such as the Applied acoustics HYD-360/08 (50 m) or a multi-channel hydrophone such as the Geometrics GeoEel LH-16™ Digital Streamer. The sparker source has a frequency range of between 0.5-5 kHz and sound pressure levels in the range of 205-211 dB re1µPa @ 1m. The SBP will be towed behind a small survey vessel using 20 m spacing of main lines and cross lines at 100 m spacing.</p>	<p>A SBP sparker may also be used across area A and B of the proposed MUL area where required, to a suitable percentage coverage as part of the geophysical survey. This activity is anticipated to occur within daylight hours over a period of up to 10 days.</p>
	MBES	<p>A bathymetric survey will be conducted using multibeam echo sounders, a type of sonar frequently used to map bathymetry. These systems may be mounted on a dedicated survey vessel or towed behind a smaller vessel, depending on site conditions and water depths. Multibeam systems emit wide acoustic</p>	<p>MBES may also be used across area A and B of the proposed MUL area where required, to a suitable percentage coverage as part of the geophysical survey. This activity is anticipated to occur within daylight</p>

Survey	Method	Method details	Sampling effort
		<p>signals to generate high-resolution images, creating three-dimensional maps of the seabed. Line spacing will be between 5 and 20 m, depending on depth. The operating frequencies emitted from MBES will be 300-700 kHz, with a peak operating frequency of approximately 400 kHz. Exposure time is approx. 0.05 ms per 1 ms for multibeam operating with 200-400 kHz, or 0.05 per 0.3 ms for higher frequencies (>400 kHz). Sound pressure levels will be approximately 215-220 dB re 1µPa @ 1m.</p>	<p>hours over a period of up to 10 days.</p>
	<p>Marine Refraction Seismic</p>	<p>Marine refraction surveys use controlled seismic sources, such as air guns or weight drops, to generate seismic waves that travel through sediment and rock layers. Arrays of hydrophones or geophones deployed on the seabed record the refracted seismic waves as they bend and travel along subsurface interfaces. By analysing the travel times and velocities of these refracted waves, detailed models of sediment thickness, bedrock depth, and structural features can be developed. Airgun impulse energy is mostly concentrated within low frequencies, with peak frequencies between 5-90 kHz. Source levels are predicted to be within the range of 186-220 dB re 1µPa @1m.</p>	<p>Marine Refraction Seismic surveys may be undertaken across both areas of the MUL to a suitable percentage coverage as part of the geophysical survey. This activity is anticipated to occur within daylight hours over a period of up to 8 days.</p>
	<p>Marine ERT</p>	<p>ERT surveys are conducted to investigate the electrical properties of subsurface sediments and rocks, used to image the subsurface beneath the seabed or coastline by measuring variations in electrical resistance. The technique involves deploying a series of electrodes along the seabed, either towed or fixed. As a non-invasive, non-seismic geophysical method, marine ERT produces no significant underwater noise and has minimal environmental impact.</p>	<p>Maximum 20 ERT lines of 315 m length line with diameter of 20 mm. This activity is anticipated to occur within daylight hours over a period of up to 8 days. Applies across both areas of the MUL.</p>

Survey	Method	Method details	Sampling effort
<p>Marine environmental/ecological (up to 5 days)</p>	<p>Benthic ecology samples (including subtidal and intertidal habitats surveys)</p>	<p>Identify benthic communities and habitats at the site, intertidal sample locations may be subject to walkover/drone survey in advance of sampling.</p> <p>A day grab is an instrument used for sampling soft seabed sediments. When deployed overboard it is lowered on a winch to the seabed where the jaws open to take a small (approx. 5L) sample of the surface sediment (top 20 cm). A Hammon grab is a very similar type of sampler, but the jaw mechanism is slightly different which allows it to sample coarser sediments (e.g. gravel and shelly sediments). The samples retained can then be analysed to obtain an overview of the sediment fauna, and particle size. Both samplers are routinely used for surveillance monitoring to support a number of EU Directives such as the Habitats Directive and Water Framework Directive. Day or Hammon grabs do not introduce noise into the underwater environment other than that produced from a slight impact with the grab making contact with the seabed.</p>	<p>There will be up to 20 no. dedicated subtidal benthic ecology grab sampling locations within the proposed MUL area and multiple samples (max 4) may be taken at each location. Samples would be of surface area 0.1 m².</p> <p>Applies across both areas of the MUL.</p>
	<p>Seabed imagery (Remotely Operated Vehicles [ROV] surveys)</p>	<p>Underwater camera systems or ROVs may be used for visual inspection of the existing benthic conditions. High quality video recordings and stills may be collected for further analysis and confirmation of suitable conditions for further intrusive activities (e.g. benthic sampling or geotechnical works).</p>	<p>Subtidal sample locations may be subject to drop down video in advance of sampling.</p> <p>Applies across both areas of the MUL.</p>
	<p>Intertidal coring and walkover survey</p>	<p>For intertidal sediment assessment a 0.01 m² hand core taken to a depth of 20 cm for benthic faunal analysis will be used. Additional surveys of intertidal hard strata may also be carried out by conducting walk over surveys of the relevant hard strata to record biotopes and species present.</p>	<p>There will be up to 12 no. dedicated intertidal coring/grab locations if shoreline conditions allow for sediment sampling.</p> <p>Applies across both areas of the MUL.</p>

Survey	Method	Method details	Sampling effort
Archaeology (up to 5 days)	Walkover	<p>Intertidal walkover to be undertaken at low tide to assess for the presence of sensitive archaeological features. Survey methodology may also involve the use of a metal detector along the foreshore.</p> <p>Pending the results of geophysical surveys there may be a requirement for further archaeological surveys (i.e. underwater video, dive surveys), including the groyne locations.</p>	<p>To be confirmed, pending the results of the geophysical surveys.</p> <p>Applies across both areas of the MUL.</p>
Geotechnical (up to 16 weeks)	Drop-down video	<p>Drop-down video survey to inspect the seabed and identify any sensitive habitats in the vicinity without disturbance to the seabed.</p>	<p>There will be up to 30 transects of up to 30 m each using a drop down camera and video surveillance.</p> <p>Applies across both areas of the MUL.</p>
	Boreholes	<p>Boreholes may be up to 10 m below bed level but some may be terminated if sufficient bedrock is encountered. The boreholes will be carried out using sonic methods through the seabed sediment, with rotary coring used to advance through the bedrock. The typical frequencies emitted from rotary drilling are between 0.001-0.120 kHz and a recorded sound pressure of approximately 145 dB re1µPa @1m. Marine rotary drilling involves rotating a drill bit attached to a drill string and applying downward pressure to cut through the rock formations. Geotechnical sampling tools, including push and piston samples, can then be deployed into the ground to recover intact material. All drilling equipment used will follow the ISO and API technical specifications for drilling equipment. Boreholes will be drilled from a jack-up barge to maintain stability when drilling. Each location would require the 4 legs to penetrate the seabed and cause a temporary disturbance on each occasion. Each leg is typically less than 1 m² in footprint.</p>	<p>A maximum of 107 no. boreholes of a diameter of 300 mm will be required within both areas of the MUL, including approximately 41 no. for the revetment and 46 no. for the groynes on the east side; and a maximum of 20 no. for the embankment and pumping stations on the west side.</p>

Survey	Method	Method details	Sampling effort
	CPT	<p>The CPT is a geotechnical investigation method used to determine the properties of soils and delineate soil stratigraphy, offering a continuous profile of soil parameters. The CPT rig, often mounted on a truck or a tracked vehicle, uses hydraulic rams to push the cone into the ground. The cone typically has a cross-sectional area of 10 or 15 cm².</p> <p>CPTs are to progress to a maximum depth of 10m but will be terminated when bedrock is encountered. In the CPT, an instrumented electronic probe (cone penetrometer) is situated at the front end of a string of steel rods that are hydraulically pushed into the ground at a constant rate of 20 mm/s to measure soil response, geo-stratigraphy, and engineering parameters. A CPT vehicle or hydraulic ram set are often used to provide the reaction and pushing force. The equipment used will conform to relevant international standards, such as ISO, ensuring consistent and reliable geotechnical data.</p>	<p>180 no. CPTs will be conducted of a diameter of 44 mm.</p> <p>Applies across both areas of the MUL.</p>
	Grab samples	<p>Grab samples using 0.1 m² grabs will be collected for grading, loss on ignition and assessment of benthic community.</p>	<p>A maximum of 32 no. grab samples of surface area 0.1 m² will be collected within both areas of the MUL.</p>
	Metocean monitoring buoys	<p>Metocean monitoring buoys are floating sensors with an anchorage system secured on the seabed. The buoys record various metocean conditions through the following monitoring equipment:</p> <ul style="list-style-type: none"> • Conductivity, temperature, depth sensors • Optical salinity sensor • Acoustic Doppler Current Profiler (ADCPs operating in the range of 600 kHz or 1 MHz will be used. The instrument emits low amplitude “pings” of sound at a sampling rate of 1-minute average every 10 	<p>Up to two buoys will be placed within the MUL area.</p>

Survey	Method	Method details	Sampling effort
		<p>minutes. These pings will be emitted in a narrow sound beam (typically a few degrees in width) with a typical echo intensity profile of 80 dB (+/- 1.5 dB))</p> <ul style="list-style-type: none"> • Optical or electrochemical dissolved oxygen sensor • Ph sensor/probe • Turbidity sensor • Turbidity meter/sediment trap. <p>Metocean monitoring buoys will be anchored with two anchors per buoy. Anchors will have a maximum footprint of 2 m² each. These will be secured by either 2 x 20 kg weights or could be housed within a trawl resistant frame that will lie on the seabed with dimensions of approximately 2 m x 2 m x 1 m.</p>	

Table 2.2: Predicted time and footprint of each survey activity

Survey activity	Total time for activity		Maximum number of samples	Footprint per sample (m ²)	Maximum total footprint per activity (m ²)
Geophysical survey	Up to 4 months	Up to 10 days	<u>Side Scan Sonar</u> 20 m spacing of main lines and 100 m spacing of cross lines with 25% overlap onto neighbouring lines	-	Suitable percentage cover of the MUL area
		Up to 10 days	<u>Magnetometer</u> 20 m spacing of main lines and 100 m spacing of cross lines with 25% overlap onto neighbouring lines		
		Up to 10 days	<u>Sub-bottom Profiling</u> 20 m spacing of main lines and 100 m spacing of cross lines with 25% overlap onto neighbouring lines		

Survey activity	Total time for activity		Maximum number of samples	Footprint per sample (m ²)	Maximum total footprint per activity (m ²)
		Up to 10 days	<u>Multibeam Echosounder</u> 5-20 m line spacing		
Marine refraction seismic	Up to 8 days		20 m line spacing	-	Suitable percentage cover of the MUL area
Marine ERT	Up to 8 days		Maximum 20 ERT lines of 315 m length	6.3	126
Marine environmental/ecological	Up to 5 days		<u>Subtidal</u> Maximum 80	0.1	8
			<u>Intertidal coring</u> Maximum 12	0.01	0.12
Geotechnical	Up to 4 months		<u>Drop down video</u> 30 transects	-	Suitable percentage cover of the MUL area
			<u>Boreholes</u> Maximum 107	0.071	7.597
			<u>CPT</u> 180	0.1	18
			<u>Grab samples</u> Maximum 32	0.1	3.2
Metocean monitoring buoy anchors	Maximum of 6 months		Two buoys with two anchors per buoy	4	8

2.3 General survey requirements

All appointed survey contractors shall obtain and comply with all necessary marine operational permits including routine and customary vessel/crew/equipment clearances from Customs Agencies, Port Authorities, Marine Survey Office, etc.

2.3.1 Quality assurance

Each of the appointed survey contractors shall comply with the following as a minimum:

- quality and environmental management systems based on ISO9001:2015 and ISO14001
- provision of site and activity specific method statements for all the marine operations within their scope
- provision of quality management plans for all the marine operations.

2.3.2 Health & safety

Health, safety, environment, and welfare considerations will be a priority in the evaluation of possible contractors for the various survey scopes and will be actively managed during the survey work.

Appointed contractors will be required to comply with all legislation relevant to the activities within their scope of work.

Project/survey specific Health, Safety and Environment (HSE) plans will be put in place which will form part of the survey project execution plans.

2.3.3 Working hours

The working hours for the SI works are proposed to be from 8am to 8pm. It is anticipated that the main SI works will be carried out over a period of up to four months including mobilisation and demobilisation. While metocean monitoring buoy deployment will be for period of up to two years, the devices will be autonomous apart from maintenance visits every two to four months. Such maintenance visits will occur during daylight hours only.

Weather conditions and/or sea-state will impact on the working hours, and it may be necessary to temporarily suspend operations when adverse weather conditions and/or sea-state are encountered or forecast. As such, survey plans will remain flexible to take advantage of optimal weather windows. Similarly, equipment or vessel maintenance and repair may impact on the SI works resulting in changes to the survey schedule.

2.3.4 Environmental procedures

Environmental procedures to be followed by the appointed survey contractors are detailed within Section 5.2.12 of the Supporting Information for Screening for Environmental Impact Assessment (SISEIA) report.

2.3.5 Vessels

All vessels will be fit for purpose, certified and capable of safely undertaking all required survey work. Marine vessels will be governed by the provisions of the Sea Pollution Act 1991, as amended. In addition, all vessels will adhere to published guidelines and best

working practices such as: the National Maritime Oil/HNS Spill Contingency Plan, Marine Pollution Contingency Plan, Chemicals Act 2008 (No. 13 of 2008), Chemicals (Amendment) Act 2010 (No. 32 of 2010) and associated regulations.

Vessels shall have a Health, Safety and Environmental Management system which should conform to the requirements of the latest International Maritime Organisation, Safety of Life at Sea and environmental requirements for their classification and with any national requirement of the territorial or continental/Economic Exclusion Zone waters to be operated in.

The SI works will be undertaken from vessels in accordance with the relevant guidelines¹ required to manage the risk to marine mammals from man-made sound sources in Irish waters (DAHG, 2014).

¹ Relevant guidance may include the incorporation of the methods outlined in the following text, additional activity-specific mitigation is outlined in Section 6 and within the guidance document (DAHG, 2014). A3: Avoid critical habitats for marine mammals, A4: Avoid operations during key periods of species life cycles, A5: Avoid time periods when effective impact mitigation is not possible, A6: Risk minimisation measures, including minimisation of duration over which sound producing activity takes place, and minimise sound pressure and exposure levels delivered into the environment (i.e., lower impact methods), clear ramp-up procedure, bubble curtain implementation (where relevant), use of dedicated Marine Mammal Observer (MMO) (where relevant).

3 METHODOLOGY

3.1 AA guidance

This report has been completed in consideration of the EU and national guidance documents that pertain in relation to Member States' fulfilling their requirements under the EU Habitats Directive, with particular reference to Article 6(3) and 6(4) of that Directive. The methodology followed in relation to this SISAA has had regard to the following guidance:

- EC (2000), Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg
- EC (2002), Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission
- EC (2007), Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. European Commission
- DoEHLG (2009, rev. 2010), Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government
- EC (2013), Interpretation Manual of European Union Habitats. Version EUR 28. European Commission, Luxembourg
- EC (2018), European Commission Notice C (2018) 7621 'Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC', Office for Official Publications of the European Communities, Luxembourg
- OPR (2021), Practice Note PN01: Appropriate Assessment Screening for Development Management. Office of the Planning Regulator, Dublin Ireland
- EC (2021), European Commission Notice C (2021) 6913 'Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC', Office for Official Publications of the European Communities, Luxembourg.
- European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011), as amended. Government of Ireland.
- NPWS (2009, rev. 2010), Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities. National Parks & Wildlife Service, Department of Environment, Heritage and Local Government.
- NPWS (2020), Guidance on Appropriate Assessment for Planning Authorities. National Parks & Wildlife Service.
- DAFM, Appropriate Assessment Procedures for Forestry Projects. Department of Agriculture, Food and the Marine.
- SEAI, Appropriate Assessment (NIS) Report Guidance. Sustainable Energy Authority of Ireland.
- Department of Enterprise, Tourism and Employment (2025), Screening for Appropriate Assessment Determination – Tourism Sectoral Adaptation Plan 2025–2030.
- Department of Rural and Community Development (2021), Screening for Appropriate Assessment – Our Rural Future: Rural Development Policy 2021–2025.

3.2 Stages of AA

The AA is a four-stage process with tests at each stage. The four stages are shown in Figure 3.1 below. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

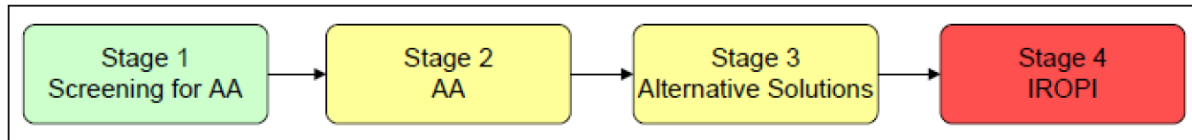


Figure 3.1: Four stages of Appropriate Assessment

Stages 1-2 deal with the main requirements for assessment under Article 6(3) of the Habitats Directive. Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

The screening for AA carried out by the public authority/competent authority (Stage 1), will determine whether an AA (Stage 2) of the proposed project is required. Stage 2 is required if it cannot be excluded, on the basis of the objective information provided at Stage 1, that the proposed project, individually or in combination with other projects or plans, will have a significant effect on a European site, in view of the site’s conservation objectives. In this case, a NIS must be prepared to assist the public authority/competent authority to conduct the Stage 2 AA. If it is not possible during Stage 2 to reduce impacts to acceptable, non-significant levels by avoidance and/or mitigation, Stage 3 of the process must be undertaken which is to objectively assess whether alternative solutions exist by which the objectives of the plan or project can be achieved. If alternative solutions exist that do not have negative impacts on European sites; they should be adopted regardless of economic considerations. The process must then return to Stage 2, as any alternative proposal must be subject to a Stage 2 AA before it can be subject to the Article 6(4) test. If it can be demonstrated that all reasonable alternatives have been considered and assessed, the AA progresses to Stage 4. This final stage is undertaken when it has been determined that negative impacts on the integrity of a European site will result from a plan or project and there are no alternative solutions. At Stage 4 of the AA process, it is the characteristics of the plan or project itself that will determine whether or not the competent authority can allow it to progress. This is the determination of Imperative Reasons for Overriding Public Interest.

While there is no prescribed form or content for reporting (DoEHLG, 2009) the methodology and format adopted in this report has been in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the ‘Habitats’ Directive 92/43/EEC (EC, 2021) and the European Commission Guidance ‘Managing Natura 2000 sites’ (EC, 2018), guidance prepared by the NPWS (DoEHLG, 2009) and by the Office of the Planning Regulator (OPR, 2021).

As per DoEHLG (2009):

“The first test is to establish whether, in relation to a particular plan or project, appropriate assessment is required.”

In summary, the test for the screening for AA is to assess, in view of objective scientific information, if the proposed development, individually or in combination with other plans/projects is likely to have a significant effect on a European site. The precautionary-

principle approach is required, meaning decisions must avoid deterioration and disturbances that could significantly impact the site's integrity, even where there is uncertainty regarding a likely effect. Under the Habitats Directive, a plan or project cannot be authorised if there remains reasonable scientific doubt that it will adversely affect the integrity of a European site. If there are any significant, potentially significant, or uncertain effects, it will be necessary to proceed to AA and submit an NIS.

3.3 Stage 1 screening/test of significance

This process identifies whether the proposed development is directly connected to or necessary for the management of a European site(s) and identifies whether the development is likely to have significant impacts upon a European site(s) either alone or in combination with other projects or plans.

The screening for AA will incorporate the following steps:

1. determining whether a project or plan is directly connected with or necessary to the conservation management of any European sites
2. describing the project or plan
3. identifying the European sites potentially affected by the project or plan
4. identifying and describing any potential effects of the project or plan on European sites, alone, in combination and cumulatively with other plans/projects
5. determining the likelihood of significant effects on European sites.

The output from this stage is a determination for each European site(s) of the likelihood of not significant, significant, potentially significant, or uncertain effects. The latter three determinations will cause that site to be brought forward to Stage 2.

3.4 Desk study

Information on the receiving environment was analysed to determine the potential for significant effects to QI of the European sites with established connectivity to the works (see Section 4.4). The following publications and data sources were reviewed:

- Environmental Protection Agency (EPA) online interactive mapping tools (<https://gis.epa.ie/EPAMaps>) and (<https://gis.epa.ie/EPAMaps/Water>) for water quality data including surface and ground water quality status, and river catchment boundaries
- Information on ranges of mobile QI populations in Volume 1 of NPWS' Status of EU Protected Habitats and Species in Ireland (NPWS, 2019), and associated digital shapefiles obtained from the NPWS Research Branch
- Inland Fisheries Ireland mapping (<https://opendata-geo.hub.arcgis.com/search?layout=grid&type=Web%2520Map%2CWeb%2520Experience%2CDashboard>)
- BirdWatch Ireland (<https://birdwatchireland.ie/>)
- Mapping of European site boundaries and Conservation Objectives for relevant sites, available online from the NPWS included site synopsis, Natura 2000 Data form and Conservation Objective Supporting Documents where available (<https://www.npws.ie/protected-sites>)

- Distribution records for QI of European sites held online by the National Biodiversity Data Centre (www.biodiversityireland.ie)
- Geohive online Environmental Sensitivity Mapping tool (<https://www.geohive.ie/pages/environment>)
- Geological Survey Ireland (<https://www.gsi.ie/en-ie/Pages/default.aspx>)
- Local surveys of flora, fauna, and habitat available using the Heritage Councils mapping website (<https://www.heritagemaps.ie/>)
- Ordnance Survey of Ireland maps and aerial photography.
- Ireland's Marine Atlas, marine data and related information (<https://atlas.marine.ie/>)
- EMODnet Map Viewer, European Marine Observation and Data Network (<https://emodnet.ec.europa.eu/geoviewer/>)

The identification of relevant European sites to be included in this report was based on the criteria provided in OPR (2021), namely:

- any European site within or immediately adjacent to the project area
- identification of European sites where a Source-Pathway-Receptor (S-P-R) link exists, explained in Section 3.5.

3.5 Identification of relevant European sites

3.5.1 Source-Pathway-Receptor model

The identification of relevant European sites to be included in this report was based on the identification of the 'zone of influence' of the proposed survey works using a Source-Pathway-Receptor (S-P-R) model where:

- 'source' is defined as the individual element of the proposed works that has the potential to impact on a European site, its qualifying features, and its COs
- 'pathway' is defined as the means or route by which a source can affect the ecological receptor
- 'receptor' is defined as QI of SACs or SPAs for which COs have been set for the European site(s) being assessed.

An S-P-R model is a standard tool used in environmental assessment. For an effect to be likely, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism results in no likelihood for the effect to occur. The S-P-R model was used to identify a list of European sites, and their QIs, to which the proposed works are potentially linked. These are termed as 'relevant' sites/QIs throughout this report.

In terms of describing effects, the terminology used in this report is consistent with that contained in Table 3.4 (pp.50-52) of the EPA publication Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

3.5.2 Zone of influence

Determination of the project's zone of influence was achieved by assessing the project's requirements and deliverables against the ecological receptors within the project footprint, in addition to the ecological receptors that could be connected to and subsequently impacted by the project through abiotic and biotic vectors.

The proximity of the works to European sites, and more importantly, QIs of the European sites, is of importance when identifying likely significant effects. In accordance with the OPR AA Screening Guidelines (2021), the S-P-R model has been used to identify the zone of influence to ensure that relevant European sites are identified. The S-P-R model minimises the risk of overlooking distant or obscure effect pathways, while also avoiding an over reliance on buffer zones (e.g. 15 km), within which all European sites should be considered. This approach follows the DoEHLG (2009) guidance on AA which states that:

“For projects, the distance could be much less than 15 km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects” (DoEHLG, 2009).

The zone of influence of the works on mobile species (e.g., birds, mammals, and fish), and static species and habitats (e.g. saltmarshes, woodlands, and flora) is considered differently. Mobile species have ‘range’ outside of the European sites in which they are QI. The range of mobile QI species varies considerably, from several metres (e.g. in the case of whorl snails *Vertigo* spp.), to hundreds of kilometres (in the case of migratory wetland birds). A project’s zone of influence may extend well beyond the project boundary and can impact or have an effect on static species and habitats remote from the proposed works; for example, where an aquatic QI habitat or plant is located many kilometres downstream from a pollution source. In particular, hydrological linkages between the proposed works and European sites (and their QIs) can occur over significant distances; however, any effect will be site-specific depending on the receiving water environment and nature of the potential impact.

To this end, the zone of influence for this project extends outside of the immediate proposed MUL area to include ecological receptors connected to the SI works through proximity and connectivity through features such as watercourses and waterbodies in addition to potential connectivity through land and air. See Section 4.4 for the identification of relevant European sites.

4 IDENTIFICATION OF RELEVANT EUROPEAN SITES

4.1 Assessment of connectivity

Connectivity is identified via the S-P-R model which identifies the potential impact pathways such as land, air, hydrological pathways etc., which may support direct or indirect connectivity between the SI works (source) and European sites and their QIs (receptors).

Where it is evident that there is no connectivity between the SI works and receptors (i.e. European sites and/or habitats and species for which the sites are selected), the receptors are excluded from the AA process. Where connectivity exists between the SI works and receptors, these receptors are taken forward to the assessment of likely significant effects (Section 5.2).

4.2 Identification of potential receptors

Receptors with the potential to be affected by the SI works are:

- QI habitats of European sites within the MUL area, or within an area likely to be affected by the SI works
- QI species of the European sites within or immediately adjacent to the MUL area
- mobile QI species to forage or transit into the MUL area or an area likely to be affected by the SI works (ex situ effects).

Following identification of potential sources of impact, the potential for a pathway to various receptors is considered, followed by the identification of relevant European sites.

4.3 Identification of potential sources of impacts

Identification of a risk of impact does not constitute a prediction that it will occur or, if it does occur, that there is an intrinsic likelihood that it will result in ecological or environmental damage or that it will cause or create a significant effect on the European sites in question. The level and significance of the effect depends upon the magnitude, duration or intensity of the impacts ensuing from the proposal and the existence of a credible or tangible S-P-R link between the SI works and the European sites. It is also determined by the extent of the exposure to the risk and the characteristics of the receptor.

When assessing impact, the QI habitats and species are only considered receptors where a credible or tangible S-P-R link exists between the SI works and the receptor. In order for an impact to occur there must be a risk initiated by having a 'source' - the origin of potential impacts (e.g. near stream construction works), an impact pathway - the means by which the effect reaches the receptor (air, water, or ground) between the source and the receptor (e.g. a watercourse which connects the development site to the site designated for the protection of a receptor) and a 'receptor' (e.g. a protected species associated aquatic or riparian habitats). If the source, pathway, or receptor is absent, no linkage exists and thus, there will be no potential for an impact to be transmitted.

The potential impacts arising from the SI works have been identified as follows:

- noise, vibration, lighting, and human presence-related species disturbance
- habitat loss or disturbance
- increased Suspended Sediment Concentrations (SSC)
- underwater noise
 - injury and/or displacement of Annex II marine mammals, otter, and fish from underwater noise and/or the presence of increased marine traffic (e.g. visual)
- entanglement
 - injury and/or disturbance of Annex II marine mammals, otter and fish from towed gear and seabed gear
- accidental pollution event
- collision with survey vessels
- introduction of invasive species

Table 4.1 identifies the SI works associated with each impact, and the receptors with the potential to be affected.

Table 4.1: Source-Pathway-Receptor assessment for the works

Noise	Potential source of impact	Description of effect pathway	Relevant receptor
Above-water noise, vibration, lighting, and human presence-related species disturbance	Jack-up barge and vessel activity associated with the SI works	Potential for direct impacts by disturbing species, leading to displacement from the area	Marine mammals Otter Birds
Habitat loss, alteration, and fragmentation	Interactions with the seabed resulting from geotechnical surveys, deployment of seabed equipment, and marine environmental sediment sampling	Potential for direct effects on sensitive habitats and indirect effects to species which rely on those habitats for feeding and/or breeding	Marine habitats Marine mammals Otter Fish Birds
Increased SSC	Interactions with the seabed resulting from geotechnical surveys, deployment of seabed equipment, and marine environmental sediment sampling	Potential for direct effects on sensitive habitats and indirect effects to species which rely on those habitats for feeding and/or breeding	Marine habitats Marine mammals Otter Fish Birds
Underwater noise, including injury and or displacement of Annex II marine species from underwater noise	Noise emissions and increased marine traffic from survey equipment and vessels	Potential for direct effects on species in the marine environment including injury,	Marine mammals Otter Fish Birds

Noise	Potential source of impact	Description of effect pathway	Relevant receptor
and/or the presence of increased marine traffic	associated with the SI works	disturbance and/or displacement	
Entanglement, including injury and/or disturbance of Annex II marine species from the presence of towed gear and seabed gear	Risk of entanglement from the towed and seabed equipment associated with the geophysical and geotechnical survey works	Potential for direct effects on species in the marine environment including injury, disturbance and/or displacement	Marine mammals
Accidental pollution event	Jack-up barge and vessel activity associated with the SI works	Potential for direct effects on marine habitats and species, and indirect effects through contamination of supporting habitats	Marine habitats Marine mammals Otter Fish Birds
Collision with survey vessels	Vessel activity associated with the SI works	Potential for direct effects to large species in the marine environment	Marine mammals Otter
Invasive non-native species	Transport from equipment	Potential introduction of non-native invasive species	Marine habitats Marine mammals Otter Fish Birds

4.4 Identification of relevant European sites

Using the S-P-R model to identify the zone of influence for each impact as outlined in Table 4.1, the following summarises the zone of influence of the SI works within which relevant European sites will be selected:

- those which occur within or immediately adjacent to the MUL area boundary (Figure 2.1)
- the water body within which the proposed surveys will be undertaken to capture any hydrological linkages
- foraging ranges of relevant QI species (i.e. potential for ex situ effects).

The Slaney River Valley SAC (000781), the Seas off Wexford SPA (004237), the Wexford Harbour and Slobs SPA (004076), and the Raven SPA (004019) overlap with the MUL Area, therefore these sites will be considered in this SISAA. The potential for connectivity with receptors from other European sites is considered in the proceeding sections.

Relevant SPA and SAC sites are displayed in Figure 4.1 and Figure 4.2 respectively.

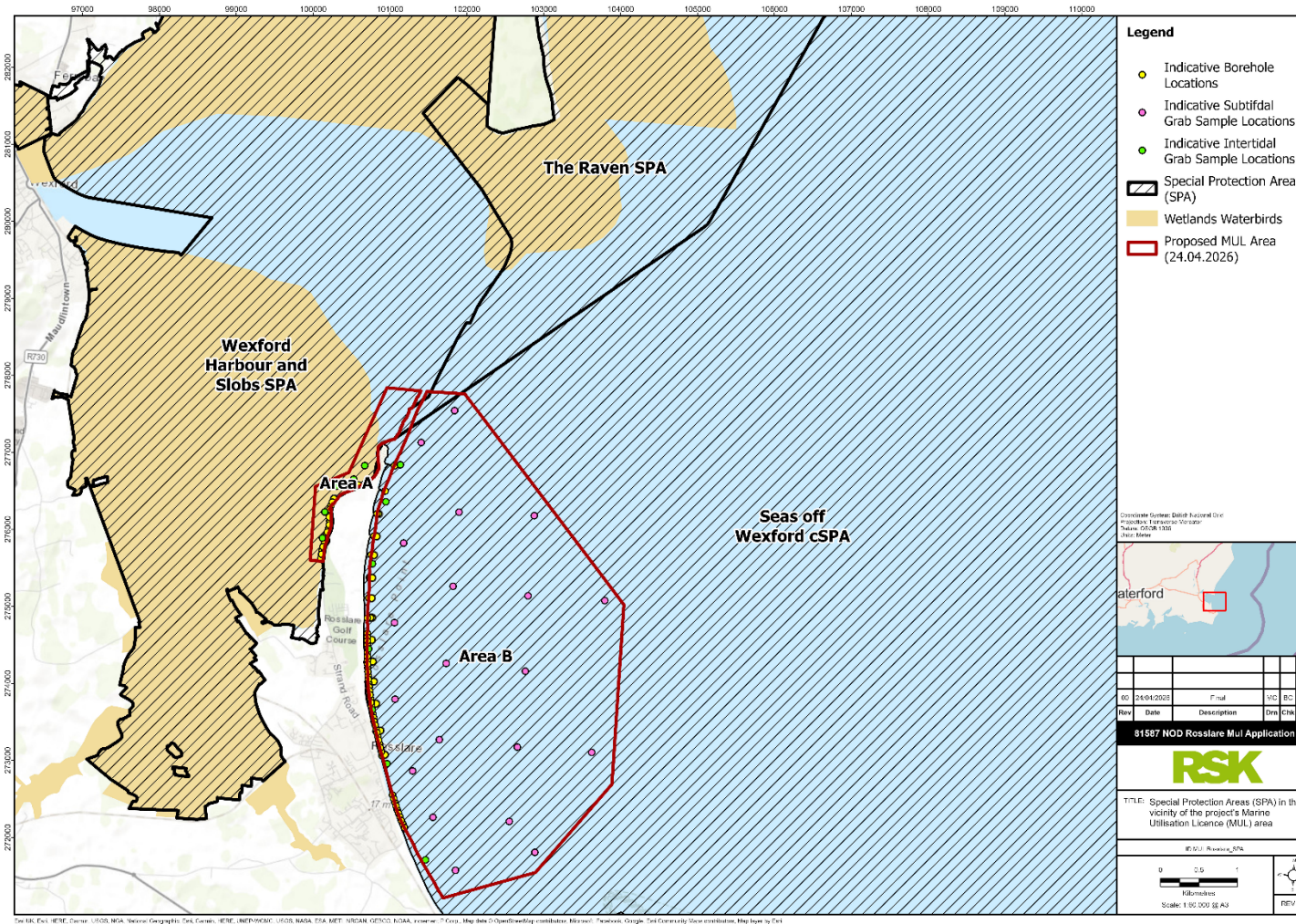


Figure 4.1: SPA sites in relevant to the MUL area

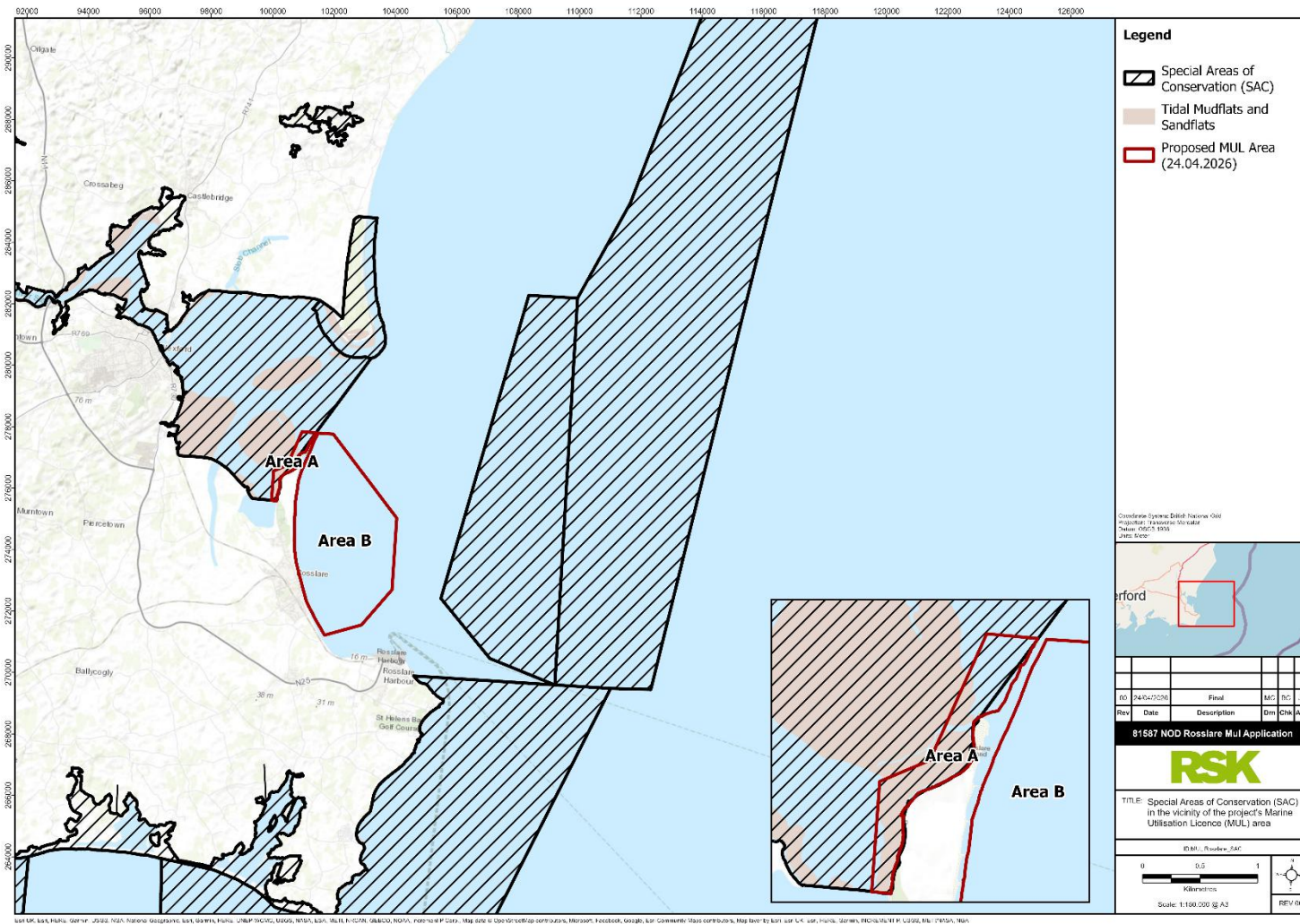


Figure 4.2: SAC sites in relation to the MUL area

4.4.1 Potential for connectivity with ex situ Annex II marine mammals

4.4.1.1 Cetaceans

The MUL Area does not overlap with any European sites designated for harbour porpoise (*Phocoena phocoena*). The species is however noted as a QI of the Carnsore Point SAC (located approximately 2.5 km to the south-east of the MUL area) and Blackwater Bank SAC (located approximately 5.5 km to the east of the MUL area). Due to distance and potential for connectivity with the SI works, these European sites are to be considered further within this SISAA. However, it is appreciated few sightings of harbour porpoise have been recorded along the Rosslare coast in relation to the MUL area. Figure 4.3 shows the observations numbers and relative abundance recorded of harbour porpoise obtained through visual surveys by the Irish Whale and Dolphin Group (IWDG) between 2005 and 2011 (Marine Institute, 2026a). Most recent sightings have been made north of the proposed MUL in September 2025 and March 2026 and south of the proposed MUL during the months of May, June and September 2025.

From the overall low abundance harbour porpoise along the Rosslare coast per IWDG data, it is unlikely that the MUL area is a key habitat for individuals; other areas of the Irish coastline conclude higher abundance data. Any presence within the MUL area is expected to be transient (Figure 4.3). However, due to the proximity of the noted sites, potential ex-situ connectivity with individuals cannot be ruled out.

The MUL area does not overlap with any European sites designated for bottlenose dolphin (*Tursiops truncatus*). The Hook Head SAC is the closest European site which notes bottlenose dolphin as a QI. This site is considered to be located at a sufficient distance such that potential ex-situ connectivity is not predicted and therefore SACs with bottlenose dolphin as a QI are not considered relevant for ex situ effects within the MUL area.

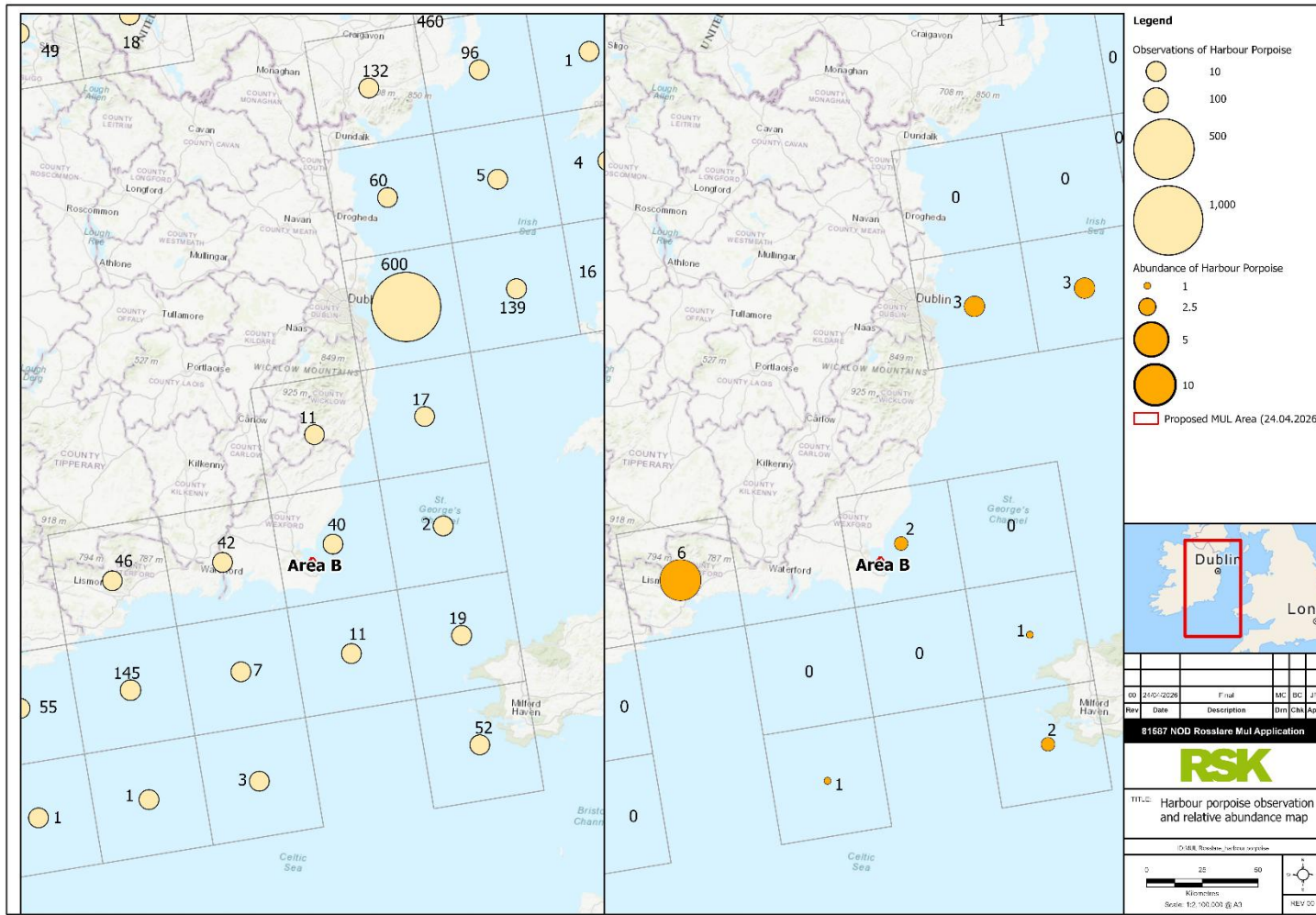


Figure 4.3: Harbour porpoise observation and abundance map

Nicholas O'Dwyer Ltd

Supporting Information for Screening for Appropriate Assessment (SISAA) Report – Rosslare CEFRS

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4.4.1.2 Pinnipeds

Telemetry data indicates that harbour seal (*Phoca vitulina*) and grey seal (*Halichoerus grypus*) have been recorded along the south-east coast of Ireland (Figure 4.4); predominantly in sheltered estuaries, sand or mudflats with limited human disturbance (NPWS, 2025). The Slaney River Valley SAC, which notes harbour seal as a QI, is inhabited by at least 27 individuals regularly (NPWS, 2015) illustrating potential for individuals to overlap with the MUL area. The river valley is an important site for breeding, moulting and resting, located within area A of the MUL area (Marine Institute, 2026b). Aerial thermal imaging surveys between 2017 and 2018 confirm presence of harbour and grey seal in the Slaney River Valley SAC. Recorded foraging trips in the south-east of Ireland extend no further than 20 km from haul-out sites (Cronin et al., 2008). The next closest European site designated for harbour and grey seal is the Lambay Island SAC (000204), located more than 130 km north of the MUL area, as a result it is considered unlikely this area represents an important foraging ground for individuals originating from this European site and no sites are considered for ex situ connectivity for pinnipeds.

4.4.1.3 Otter

Otters have been recorded within the Slaney River Valley SAC (Figure 4.4), with habitat mapping recording otter habitats within the MUL area (Area A) (Marine Institute, 2026c). Evidence suggest that otters forage within 80 m of the shoreline (NPWS, 2007), and will regularly commute across open water and estuaries (NPWS, 2011). However, very few sightings have been recorded along the Rosslare coast, with none reported in the last 12 months. From the lack of recorded sightings of otters along the Rosslare coast, it is likely that they largely avoid the area and therefore no sites are considered for ex situ connectivity.

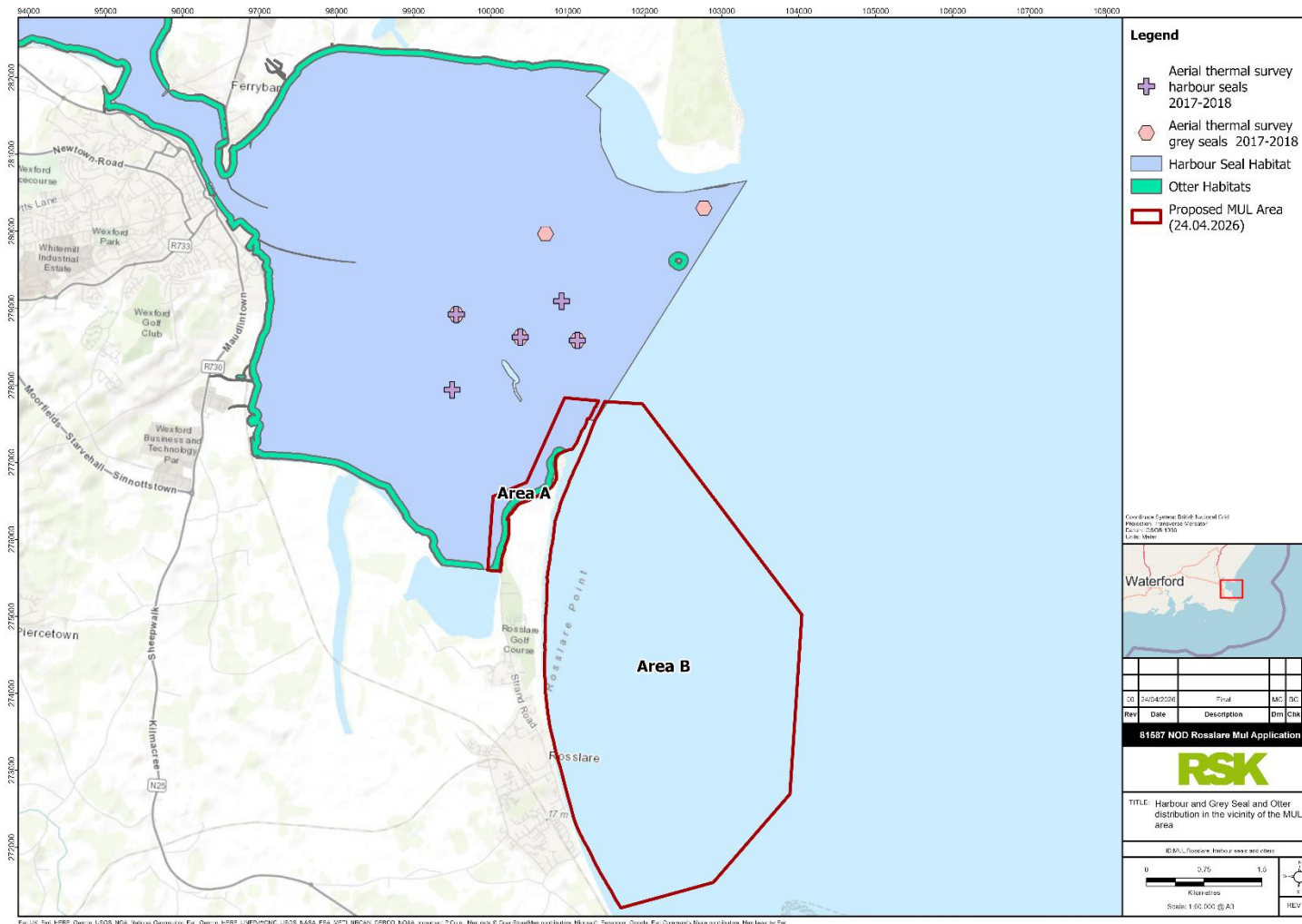


Figure 4.4: Harbour seal, grey seal and otter distribution in the vicinity of the MUL area

4.4.2 Potential for connectivity with ex-situ Annex IV turtles and basking shark

Four Annex IV turtle species known to occur in Ireland include the leatherback turtle (*Dermochelys coriacea*), Kemp's Ridley turtle (*Lepidochelys kempii*), loggerhead turtle (*Caretta caretta*) and hawksbill turtle (*Eretmochelys imbricata*).

Marine turtle occurrence within the proposed MUL area is considered low, with only infrequent and isolated records documented along the southeast coast. Leatherback turtles have been recorded along the south and southeast coastline of Ireland, including locations near Cork and Wexford, during September 2025 (IWDG, 2026). A confirmed and validated event occurred on 28 October 2023, when a deceased Leatherback turtle washed ashore on Curracloe Beach, Co. Wexford. This individual was formally logged by the IWDG, who also collected DNA samples for further analysis. Regional reporting and IWDG commentary indicate that Leatherback strandings in Wexford are unusual but not unprecedented, as the species may occasionally frequent inshore waters to feed on jellyfish. Additional turtle species occasionally recorded in Irish waters include Kemp's ridley, Loggerhead, and Hawksbill turtles. A verified Kemp's ridley turtle stranding at Banna Strand, Co. Kerry, is documented within IWDG stranding records; however, this location lies well outside the proposed MUL area. Similarly, no sightings of hawksbill turtle, Kemp's ridley or Loggerhead turtles have been recorded within the area over the past 12 months (IWDG, 2026), and as such, these species are not expected to experience any impacts arising from the planned activities. Based on all available information, Leatherback turtles remain the only species with any plausible potential to occur occasionally near the Wexford coastline. However, it is unlikely that they will be present within the MUL area during the proposed SI works.

Basking sharks (*Cetorhinus maximus*) tend to arrive in Irish waters during spring, with numbers peaking in May and June. There have been several sightings of this species along the South coast (IWDG, 2026). Given the lack of sightings in the vicinity of the proposed MUL, it is unlikely basking sharks will be present during the SI works.

4.4.3 Potential for connectivity with ex situ Annex II migratory fish

The Slaney River Valley SAC is used by several of Ireland's native diadromous fish species listed on Annex II of the Habitats Directive, as they pass through to or from freshwater spawning grounds or use the area for feeding during maturation. These species include twaite shad (*Allosa fallax*), sea lamprey (*Petromyzon marinus*), brook lamprey (*Lampetra planeri*), river lamprey (*Lampetra fluviatilis*) and Atlantic salmon (*Salmo salar*) who are a QI of the European site.

The SI works are unlikely to present a barrier to migration for these species, as they predominantly inhabit on-bottom subtidal and freshwater areas. Therefore, population are unlikely to be significantly affected in the way of migration behaviour. It is however, appreciated individuals are sensitive to other disturbance (e.g. underwater noise, SSC, etc.)

4.4.4 Potential for connectivity with ex situ birds

Certain species of seabird can forage considerable distances from their colonies (Woodward et al., 2019), however, given the limited size, scale and duration of the proposed surveys, it is considered unlikely that there is a reasonable impact pathway to SPAs beyond the immediate MUL area, as it becomes increasingly unlikely that

individuals from distant SPAs will be present. Seabirds are more likely to forage in the open sea where they can access the rich foraging habitat of continental shelf waters (Cummins et al., 2019), as opposed to foraging within estuaries or harbours where availability of fish prey may be more limited and human activity is more prevalent.

Wintering waders and wildfowl tend to be sedentary once they arrive in their over-wintering areas; often only moving short distances between roosting and feeding areas. Therefore, it is considered unlikely that wintering birds from other SPAs will travel to/from the MUL area to feed or roost. As a result, no additional SPAs, aside from the Seas off Wexford SPA, the Wexford Harbour and Slobs SPA, and the Raven SPA, are considered relevant for ex situ effects.

4.5 Relevant European sites

Based on the S-P-R model, connectivity has been established between the SI works and the following European sites:

- Slaney River Valley SAC
- Seas off Wexford SPA
- Wexford Harbour and Slobs SPA
- The Raven SPA
- Carnsore Point SAC
- Blackwater Bank SAC.

These European sites are the only sites considered to be within the zone of influence of the SI works.

Table 4.2 lists the QI of these European sites, while Figure 4.1 and Figure 4.2 shows the location of the SI works relative to these European sites.

Table 4.2: European sites selected for assessment

European site	Qualifying interests for which site has been selected	Proximity to MUL area (km)
Slaney River Valley SAC (000781)	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	0 (proposed works take place within and immediately adjacent to the SAC)

European site	Qualifying interests for which site has been selected	Proximity to MUL area (km)
	<p>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</p> <p>Alluvial forests with Alnus glutinosa and Fraxinus excelsior (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p>Freshwater pearl mussel (<i>Margaritifera margaritifera</i>) [1029]</p> <p>Sea lamprey (<i>Petromyzon marinus</i>) [1095]</p> <p>Brook lamprey (<i>Lampetra planeri</i>) [1096]</p> <p>River lamprey (<i>Lampetra fluviatilis</i>) [1099]</p> <p>Twaite shad (<i>Alosa fallax</i>) [1103]</p> <p>Salmon (<i>Salmo salar</i>) [1106]</p> <p>Otter (<i>Lutra lutra</i>) [1355]</p> <p>Harbour seal (<i>Phoca vitulina</i>) [1365]</p>	
Seas off Wexford SPA (004237)	<p>Red-throated diver (<i>Gavia stellata</i>) [A001]</p> <p>Fulmar (<i>Fulmarus glacialis</i>) [A009]</p> <p>Manx shearwater (<i>Puffinus puffinus</i>) [A013]</p> <p>Gannet (<i>Morus bassanus</i>) [A016]</p> <p>Cormorant (<i>Phalacrocorax carbo</i>) [A017]</p> <p>Shag (<i>Phalacrocorax aristotelis</i>) [A018]</p> <p>Common scoter (<i>Melanitta nigra</i>) [A065]</p> <p>Mediterranean gull (<i>Larus melanocephalus</i>) [A176]</p> <p>Black-headed gull (<i>Chroicocephalus ridibundus</i>) [A179]</p> <p>Lesser black-backed gull (<i>Larus fuscus</i>) [A183]</p> <p>Herring gull (<i>Larus argentatus</i>) [A184]</p> <p>Kittiwake (<i>Rissa tridactyla</i>) [A188]</p>	<p>0</p> <p>(proposed works take place within and immediately adjacent to the SPA)</p>

European site	Qualifying interests for which site has been selected	Proximity to MUL area (km)
	<p>Roseate tern (<i>Sterna dougallii</i>) [A192] Common tern (<i>Sterna hirundo</i>) [A193] Arctic tern (<i>Sterna paradisaea</i>) [A194] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204] Sandwich tern (<i>Thalasseus sandvicensis</i>) [A863] Little tern (<i>Sternula albifrons</i>) [A885]</p>	
<p>Wexford Harbour and Slobs SPA (004076)</p>	<p>Little grebe (<i>Tachybaptus ruficollis</i>) [A004] Great crested grebe (<i>Podiceps cristatus</i>) [A005] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Grey heron (<i>Ardea cinerea</i>) [A028] Bewick's swan (<i>Cygnus columbianus bewickii</i>) [A037] Whooper swan (<i>Cygnus cygnus</i>) [A038] Light-bellied Brent goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Teal (<i>Anas crecca</i>) [A052] Mallard (<i>Anas platyrhynchos</i>) [A053] Pintail (<i>Anas acuta</i>) [A054] Scaup (<i>Aythya marila</i>) [A062] Goldeneye (<i>Bucephala clangula</i>) [A067] Red-breasted merganser (<i>Mergus serrator</i>) [A069] Hen harrier (<i>Circus cyaneus</i>) [A082] Coot (<i>Fulica atra</i>) [A125] Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</p>	<p>0 (proposed works take place within and immediately adjacent to the SPA)</p>

European site	Qualifying interests for which site has been selected	Proximity to MUL area (km)
	<p>Golden plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Grey plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Lapwing (<i>Vanellus vanellus</i>) [A142]</p> <p>Knot (<i>Calidris canutus</i>) [A143]</p> <p>Sanderling (<i>Calidris alba</i>) [A144]</p> <p>Dunlin (<i>Calidris alpina</i>) [A149]</p> <p>Black-tailed godwit (<i>Limosa limosa</i>) [A156]</p> <p>Bar-tailed godwit (<i>Limosa lapponica</i>) [A157]</p> <p>Curlew (<i>Numenius arquata</i>) [A160]</p> <p>Redshank (<i>Tringa totanus</i>) [A162]</p> <p>Black-headed gull (<i>Chroicocephalus ridibundus</i>) [A179]</p> <p>Lesser black-backed gull (<i>Larus fuscus</i>) [A183]</p> <p>Greenland white-fronted goose (<i>Anser albifrons flavirostris</i>) [A395]</p> <p>Wigeon (<i>Mareca penelope</i>) [A855]</p> <p>Little tern (<i>Sternula albifrons</i>) [A885]</p> <p>Wetland and waterbirds [A999]</p>	
<p>The Raven SPA (004019)</p>	<p>Red-throated diver (<i>Gavia stellata</i>) [A001]</p> <p>Cormorant (<i>Phalacrocorax carbo</i>) [A017]</p> <p>Common scoter (<i>Melanitta nigra</i>) [A065]</p> <p>Grey plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Sanderling (<i>Calidris alba</i>) [A144]</p> <p>Greenland white-fronted goose (<i>Anser albifrons flavirostris</i>) [A395]</p> <p>Wetland and waterbirds [A999]</p>	<p>0 (proposed works take place within and immediately adjacent to the SPA)</p>

European site	Qualifying interests for which site has been selected	Proximity to MUL area (km)
Carnsore Point SAC (002269)	Mudflats and sandflats not covered by seawater at low tide [1140] Reefs [1170] Harbour porpoise (<i>Phocoena phocoena</i>) [1351]	2.5
Blackwater Bank SAC (002953)	Sandbanks which are slightly covered by sea water all the time [1110] Harbour porpoise (<i>Phocoena phocoena</i>) [1351]	5.5 k

4.6 Conservation Objectives

The integrity of a European site (referred to in Article 6(3) of the EU Habitats Directive) is determined based on the conservation status of the QIs of these sites.

European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status areas designated as SAC and SPA. The government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

Favourable conservation status of a habitat is achieved when:

- its natural range and area it covers, are stable or increasing within that range
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The specific conservation objectives for each European site in Ireland are available on www.npws.ie. These have been accessed for the sites listed in Table 4.2 above on 06/03/2026.

Site specific and detailed conservation objectives documents were available for all sites:

- Slaney River Valley SAC (000781); published 21 October 2011
- Seas off Wexford SPA (004237); published 7 February 2024
- Wexford Harbour and Slobs SPA (004076); published 21 March 2012
- The Raven SPA (004019); published 21 March 2012



- Carnsore Point SAC (002269); published 17 December 2024
- Blackwater Bank SAC (002953); published 17 December 2024.

5 SUPPORTING INFORMATION FOR SCREENING FOR AA

5.1 Management of European sites

The SI works are not directly connected with or necessary to the management of any European site(s).

5.2 Assessment of likely significant effects

This section determines whether the impacts identified in Section 4.3 could have significant effects on the qualifying interests (QI) of the European sites identified in Section 4.4 in view of the conservation objectives of the sites. As described in Section 4.3, the potential impacts arising from the proposed works are as follows:

- above-water noise, vibration, lighting, and human presence-related species disturbance
- habitat loss or disturbance
- SSC
- underwater noise:
 - injury and/or displacement of Annex II marine species from underwater noise and/or the presence of increased marine traffic (e.g. visual)
- entanglement:
 - injury and/or disturbance of Annex II marine species from towed gear and seabed gear
- accidental pollution event
- collision with survey vessels.

The screening assessment for likely significant effects will focus first on the Slaney River Valley SAC, the Seas off Wexford SPA, the Wexford Harbour and Slobbs SPA, the Raven SPA and then those with potential ex-situ connectivity including Carnsore Point SAC and Blackwater Bank SAC.

5.3 Slaney River Valley SAC (000781)

The SAC is selected for the protection of populations of the following aquatic, or in the case of otter semi-aquatic, species:

- freshwater pearl mussel (*Margaritifera margaritifera*) [1029]
- sea lamprey [1095]
- brook lamprey (*Lampetra planeri*) [1096]
- river lamprey [1099]
- twaite shad [1103]
- salmon [1106]
- otter [1355]
- harbour seal [1365].

The SAC is further designated for the following coastal and halophytic Annex I habitat types:

- estuaries [1130]
- mudflats and sandflats not covered by seawater at low tide [1140]
- Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) [1330]
- Mediterranean salt meadows (*Juncetalia maritimi*) [1410].

5.3.1 Above-water noise, vibration, lighting, and human presence-related species disturbance

Rosslare Harbour has approximately 2,700 vessels (all types) per year travelling into the Rosslare Harbour, with up to 22 of those vessels travelling into the MUL area per year (EMODnet, 2026). Animals commuting through or within the area are likely to be habituated to marine traffic, and the increase in vessel traffic as a result of the SI works is very low and temporary. It is considered unlikely that there will be any significant disturbance to marine species as a result of the presence of survey vessels. The presence of the jack-up barge will introduce artificial light to the area while SI works happen during the hours of darkness. This impact will be temporary and is not expected to result in any impacts beyond the SI works campaign. Therefore, further assessment of this impact is not considered necessary.

Underwater noise impacts are considered in Section 5.3.4.

5.3.2 Habitat loss or disturbance

In the vicinity of the MUL area, the Slaney River Valley SAC boundary extends into area A of the proposed MUL area (Figure 4.2). Of the seven Annex I habitat types selected for protection as part of the Slaney River Valley SAC (see Table 4.2), four are categorised as being 'Coastal and Halophytic' in their distributions, while the remaining three habitats are categorised as freshwater and forests. The distribution of all annexed habitats within the SAC are presented in the COs document (NPWS, 2012). The SI works may impact on annexed habitats within the SAC. Mudflats and sandflats not covered by seawater at low tide [1140] may be present within the MUL area (area A) where the marine elements of the SI works will occur where sediments primarily constitute infralittoral fine sand or muddy substrate (Figure 5.1). Atlantic salt meadows may also intersect with SI works undertaken in the MUL area (area A, Figure 5.2).

As identified in Table 4.1, there is the potential for loss and/or disturbance to these marine habitats as a result of the sediment sampling methods. In addition to temporary direct habitat loss when taking samples, there will also be temporary habitat loss due to the four feet of the jack-up barge used to conduct sampling, as well as temporary placement of equipment associated with seismic surveys and the anchoring of metocean monitoring buoys.

There is uncertainty as to whether or not significant habitat loss or alteration effects within the QI habitats listed above are likely, without the implementation of mitigation measures. In light of this there is, similarly, uncertainty about habitat fragmentation impacts. In circumstances where there are any significant, potentially significant, or uncertain effects, further assessment of this impact is considered necessary.

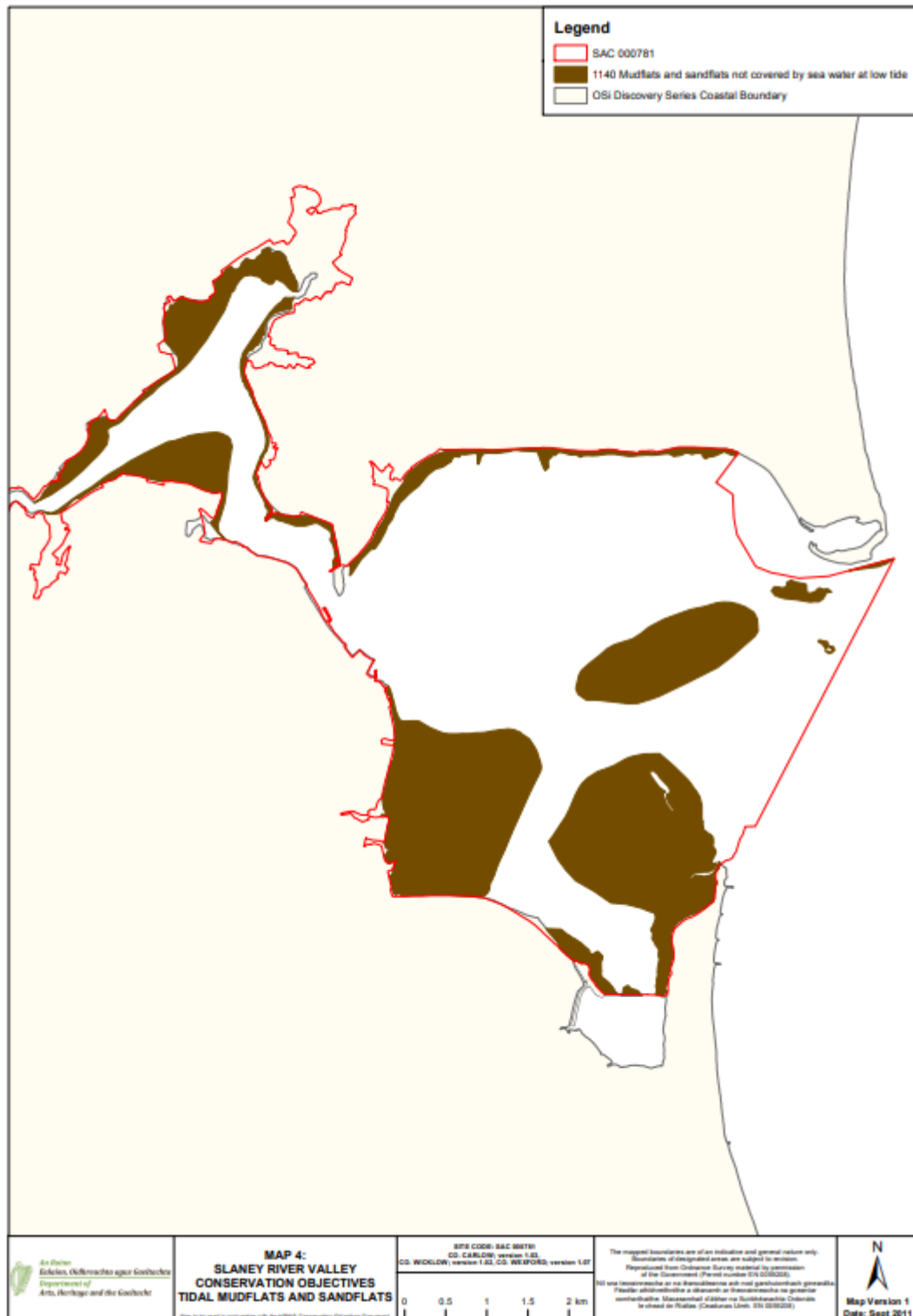


Figure 5.1: Presence of mudflats and sandflats not covered by seawater at low tide within the SAC

Source: NPWS (2012)

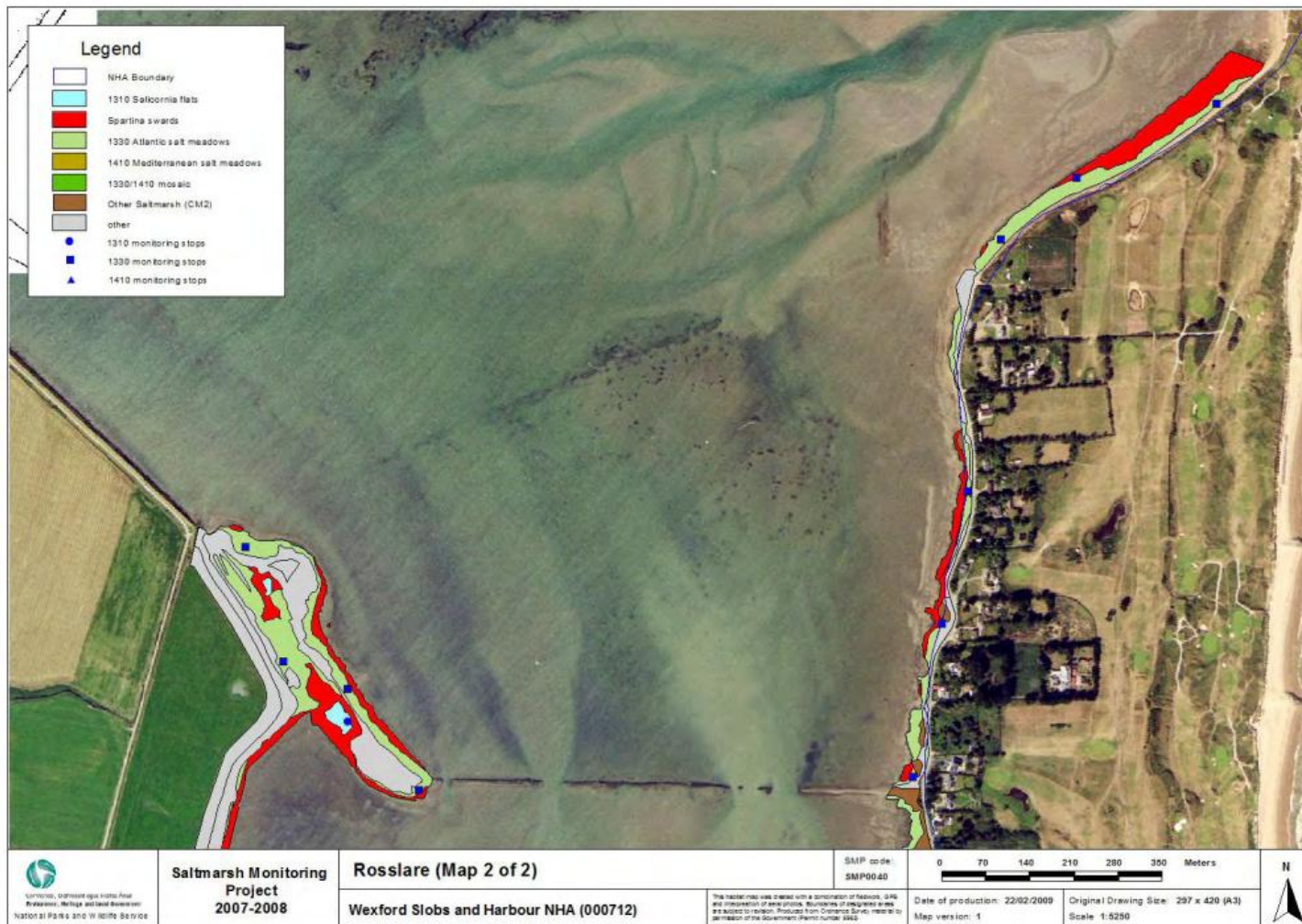


Figure 5.2: Presence of Atlantic salt meadows with the SAC

Source: McCorry and Ryle (2009)

5.3.3 Increased SSC

The deposition arising from the drilling of the geotechnical marine boreholes and from the other sediment sampling methods (grab samples and intertidal coring) has the potential to result in indirect effects of Annex I habitats associated with increased SSC and smothering that may undermine the COs of benthic habitats. There is potential for limited SSC within the immediate footprint of the sediment sampling, but due to the small number of sites, relative footprint and limited duration of the SI works, SSC from seabed sampling is expected to be negligible. Increased SSC and smothering may also occur from other activities such as positioning of equipment on the seabed (e.g. jack-up barge legs, equipment associated with seismic survey methods and metocean monitoring buoy anchors). The sediment type noted within the MUL area is noted as sand (fine to medium) with mixed sediment (INFOMAR, 2026). This sediment type typically falls out of suspension quite rapidly and as the works will take place along the Rosslare coast this would aid in the rapid dispersal of any suspended sediments due to the water depth, tidal influence, the nature of the habitats and currents near the MUL area. As best practice methods to reduce sediment mobilisation to minimal levels during the SI works will be implemented, it is not anticipated that SSC will be in large enough quantities to significantly impact the Annex I habitats (e.g. mudflats and sandflats not covered by seawater at low tide and wetlands) in the area. Therefore, further assessment of this impact is not considered necessary.

5.3.4 Underwater noise

As identified in Table 4.1 there is potential for effects as a result of the underwater noise emitted by the SI works.

When assessing the potential impact of underwater noise sources on the marine environment a range of variables such as source level, frequency, duration, and directivity influence received sound levels. Increasing the distance from the sound source usually results in attenuation with distance. The factors that affect the way noise propagates underwater include: water column depth, pressure, temperature gradients, salinity, as well as water surface and seabed type and thickness. When sound encounters the seabed the amount of noise/sound reflected back depends on the composition of the seabed (i.e. mud or other soft sediment will reflect less than rock). The water depth in the vicinity of the MUL area ranges up to 7m below chart datum, and is dominated by infralittoral fine sand or muddy sand substrate. All factors listed above reduce the propagation of the sound, decreasing the zone of influence of the geophysical survey.

The active acoustic instruments, such as those proposed on this survey, operate by emitting extremely short pulses and are mostly directional or omni-directional (e.g. sparker) (Ruppell et al, 2022). The range of the geophysical equipment will be limited principally by water depth and attenuation particularly of high frequency sources such as SBP systems. Coupled with the narrow beam angle and short duty cycles ('on' for microseconds or milliseconds per second) means that surveying sonars have relatively low acoustic impact.

Auditory injury in noise-sensitive species can be defined as a Permanent Threshold Shift (PTS) leading to non-reversible auditory injury, or as a Temporary Threshold Shift (TTS) in hearing sensitivity, which can have negative effects on the ability to use natural sounds (e.g. to communicate, navigate, locate prey) for a period of minutes, hours, or days. With

increasing distance from the sound source, where it is audible to the animal, the effect is expected to diminish through identifiable stages (i.e. PTS or TTS in hearing, avoidance, masking, reduced vocalisation) to a point where no significant response occurs. Factors such as local propagation and individual hearing ability can influence the actual effect (DAHG, 2014).

Should the noise levels from sources exceed the thresholds, there is the potential for underwater noise generated during the geophysical and seismic survey to result in injury and/or disturbance to harbour seals or otters in the vicinity of the SI works.

Marine mammal species can be split into functional hearing groupings, according to their frequency-specific hearing sensitivity (Southall et al., 2019). Harbour seals are likely to be active within the MUL area (area A), whereas otters are unlikely to be active within the MUL area. Otters are generally considered less sensitive to underwater noise than cetaceans, as their hearing is primarily air-adapted and not specialised for detecting sounds in noisy underwater environments. Consequently, because otters spend comparatively less time submerged, their overall exposure and vulnerability to underwater acoustic disturbance is typically lower than that of fully aquatic marine mammals such as dolphins and whales (Ghoul and Reichmuth, 2016).

Fish vary widely in their sensitivity to underwater noise, and their susceptibility depends on how they detect sound, whether through particle motion only or through combined pressure and particle-motion mechanisms. The Sound Exposure Guidelines for Fishes (Popper, 2014) highlight that different functional groups of fish experience different risks from noise exposure, with some species more prone to physiological injury or behavioural disturbance than others, depending on the characteristics of the sound source. The guidelines also emphasise that impulsive noise sources, such as impact drilling or seismic pulses, have a higher potential to cause injury in certain fish groups, whereas continuous or non-impulsive sources may elicit more moderate or temporary behavioural effects. As such, the likelihood of underwater noise impacts on fish within the MUL area is determined by the species present, their auditory classification, and the nature and duration of the acoustic exposure.

Continuous sources (i.e. survey vessels) are shown as almost 20 dB lower than the continuous noise threshold. Taking this and directionality into account there is no significant risk to marine mammals or fish from continuous noise.

As there is the potential for disturbance and/or displacement of QI species of the Slaney River Valley SAC due to geophysical and seismic survey noise sources in the absence of mitigation measures, further assessment of this impact is considered necessary.

5.3.5 Accidental pollution event

The SI works will result in a slight increase in vessel traffic within the MUL area for the temporary duration of the SI works. Although the increase is slight, this could in theory increase the potential risk of an accidental release of pollutants (e.g. fuels, oils, and lubricants) to the marine environment, which has the potential to result in toxic effects to Annex I benthic habitats and, consequently, on Annex II species that rely on these habitats for food.

The MUL area lies close to a busy shipping area where many commercial and recreational vessels operate. Given that the survey would amount to, at most, one jack-

up barge, maximum of four metocean monitoring buoys, and one additional vessel operating in the area during the SI works period, the likelihood of a collision resulting in a pollution event is considered unlikely. The survey vessel will use diesel or petrol fuel, will not use heavy fuel oil, and will operate at a low speed. As vessels are required by law to adhere to regulations governing accidental leakages and spillages similarly the likelihood of such an occurrence is considered very unlikely. In addition, all substances handled and/or used whilst undertaking the works are required to be handled, used, stored, and documented in accordance with assessments and the Chemicals Act 2008 (No. 13 of 2008) and Chemicals (Amendment) Act 2010 (No. 32 of 2010) and associated Regulations.

Given the nature of the works, the limited scale and duration, and the insignificant increase in vessel activity, it is considered highly unlikely that there will be a pollution incident (e.g. accidental spills of small quantities of fuel). As such, the possibility for impacts on protected species from accidental pollution events associated with the proposed works can be excluded from further consideration.

5.3.6 Risk of entanglement

All towed equipment and seabed gear has the potential to pose an entanglement risk to marine fauna. However, the equipment to be used during the SI works will be closely monitored and managed, with all gear inspected prior to deployment and only used for an overall short duration. Given these controls and the temporary nature of the activity, the potential for entanglement-related impacts is considered negligible. Therefore, potential impacts from entanglement introduced as a result of the works can be excluded from further consideration.

5.3.7 Collision with survey vessels

Vessel strikes have been known to cause mortality in marine mammals (Laist et al., 2001) as well as injuries from non-lethal collisions (Laist et al., 2001; Van Waerebeek et al., 2007). Injuries from such collisions can be divided into two broad categories: blunt trauma from impact and lacerations from propellers. Injuries may result in individuals becoming vulnerable to secondary infections or predation.

It is expected that a maximum of one vessel will be operating at any one time within the MUL area. Due to the nature of the works, the vessels conducting discrete sampling would be travelling directly to sampling locations and then remaining stationary during sampling while vessels conducting the geophysical survey will move in slow and predictable line patterns.

The Rosslare Harbour south of the MUL area, is a busy shipping area (EMODnet, 2026). Marine mammals in the area are likely to be habituated to marine traffic, and the temporary addition of a single vessel operating at either low speeds or stationary for the proposed works is unlikely to constitute a significant increase in vessel activity given the levels of vessel activity typical for the area. As such, the possibility for impacts on marine mammals from collisions with survey vessels can be excluded from further consideration.

5.3.8 Invasive non-native species

All vessels have the potential to introduce invasive non-native species. The vessel to be used during the SI works will already be operating within Irish waters, meaning there is

no risk of invasive non-native species introduction. All equipment will be cleaned and checked prior to deployment and will only be used for the duration of the SI works. Therefore, potential impacts from invasive species introduced as a result of the works can be excluded from further consideration.

5.4 Seas off Wexford SPA (004237)

The SPA is selected for the protection of seabird and wading bird species during both the breeding and non-breeding season. The QI species of the site and their ecological requirements are listed in Table 5.1.

Table 5.1: Seas off Wexford SPA QI species and their ecological requirements

Species	Breeding	Non-breeding	Prey requirements	Primary supporting habitat within site
Red-throated diver (<i>Gavia stellata</i>) [A001]		✓	Highly specialised	Sheltered & shallow subtidal
Fulmar (<i>Fulmarus glacialis</i>) [A009]	✓		Wide	Coastal cliffs and deep waters
Manx shearwater (<i>Puffinus puffinus</i>) [A013]	✓		Narrow	Steep grassy slopes and offshore islands
Gannet (<i>Morus bassanus</i>) [A016]	✓		Wide	Coastal cliffs, islands and offshore rocks
Cormorant (<i>Phalacrocorax carbo</i>) [A017]	✓	✓	Highly specialised	Sheltered & shallow subtidal over sand and mud flats
Shag (<i>Phalacrocorax aristotelis</i>) [A018]	✓		Highly specialised	Sheltered & shallow subtidal over sand and mud flats
Common scoter (<i>Melanitta nigra</i>) [A065]		✓	Highly specialised	Sheltered & shallow subtidal over sand flats
Mediterranean gull (<i>Larus melanocephalus</i>) [A176]	✓		Narrow	Sheltered & shallow subtidal over low-lying islands
Black-headed gull (<i>Chroicocephalus ridibundus</i>) [A179]	✓		Wide	Intertidal flats and sheltered and shallow subtidal

Species	Breeding	Non-breeding	Prey requirements	Primary supporting habitat within site
Lesser black-backed gull (<i>Larus fuscus</i>) [A183]	✓		Wide	Intertidal flats and sheltered and shallow subtidal
Herring gull (<i>Larus argentatus</i>) [A184]	✓		Wide	Coastal cliffs, offshore islands and sand dunes
Kittiwake (<i>Rissa tridactyla</i>) [A188]	✓		Narrow	Coastal cliffs
Roseate tern (<i>Sterna dougallii</i>) [A192]	✓		Narrow	Coastal cliffs & shallow subtidal waters
Common tern (<i>Sterna hirundo</i>) [A193]	✓		Narrow	Coastal cliffs & shallow subtidal waters
Arctic tern (<i>Sterna paradisaea</i>) [A194]	✓		Narrow	Coastal cliffs & shallow subtidal waters
Guillemot (<i>Uria aalge</i>) [A199]	✓		Wide	Coastal cliffs and deep waters
Razorbill (<i>Alca torda</i>) [A200]	✓		Wide	Coastal cliffs and deep waters
Puffin (<i>Fratercula arctica</i>) [A204]	✓		Wide	Coastal cliffs, grassy slopes and deep waters
Sandwich tern (<i>Thalasseus sandvicensis</i>) [A863]	✓		Narrow	Coastal cliffs & shallow subtidal waters
Little tern (<i>Sternula albifrons</i>) [A885]	✓		Wide	Coastal cliffs & shallow subtidal waters

5.4.1 Above-water noise, vibration, lighting, and human presence-related species disturbance

As shown in Table 5.1, the species associated with the SPA rely primarily on coastal tidal, subtidal, intertidal and estuarine habitats for foraging which overlaps with the MUL area (area B). The habitats are largely terrestrial above the high water mark and marine below

the high water mark, including intertidal areas. The area of concentrated study encompasses the marine waters off the coast of County Wexford between the Irish and Celtic Seas along the southeast coast of Ireland. The Rosslare Harbour is a busy shipping area (EMODnet, 2026) where species in the area are likely to be habituated to marine traffic to a degree, and the temporary addition of a single vessel operating at either low speeds or stationary for the proposed works is unlikely to constitute a significant increase in vessel activity given the levels of vessel activity typical for the area. As such, it is concluded that the QI species of the SPA are likely to be present within the MUL area during SI works. However, due to the temporary and small-scale nature of the works, significant disturbance or displacement is not foreseen as a result of the temporary presence of vessels or structures associated with the SI works. Therefore, further assessment of this impact is not considered necessary.

5.4.2 Habitat loss or disturbance

The QI species associated with the SPA are likely to utilise the wetland habitats within the MUL area (area B) during the breeding and non-breeding season. The site however is not designated for its wetland habitat.

In addition, given the recreational use and vessel traffic levels experienced around Rosslare Harbour, the temporary addition of the SI works vessels and equipment is not anticipated to be significantly different from background levels of disturbance for roosting birds within the MUL area (area B). Given the temporary nature and spacing of sampling along Rosslare's coast, it is similarly anticipated that there will be no significant impact on roosting birds at that site. Therefore, roosting habitat will not be significantly impacted by the SI works.

As mentioned previously, the MUL area to overlap with the European site is largely marine habitat, with some intertidal habitat. Therefore, it is considered that significant habitat loss or alteration impacts on the area is not likely. Due to the conclusion that significant habitat loss or alteration is not considered likely as a result of the SI works, further assessment of this impact is not considered necessary.

5.4.3 Increased SSC

As discussed in Section 5.3.3, the SI works have the potential to cause temporary increases in SSC. This could potentially lead to indirect effects on SPA QI species due to the smothering of prey species and increases in turbidity. However, due to the limited and temporary nature of sampling, it is considered that significant impacts are unlikely. Therefore, further assessment of this impact is not considered necessary.

5.4.4 Underwater noise

Little evidence exists of impacts to diving species from acoustic survey activities, with 11 of the QI bird species at this SPA being divers. Waders are not anticipated to be as sensitive to underwater impacts due a lack of time spent underwater. Given the limited extent and the temporary nature of sound-producing activity, it is considered that there is a low likelihood of interaction between underwater noise sources and diving birds. Therefore, further assessment of this impact is not considered necessary.

5.4.5 Accidental pollution event

While water quality is not a qualifying interest, it is considered that maintaining water quality is essential for supporting the ecology and functioning of the SPA. As discussed in Section 5.3.5, due to the limited and temporary nature of the SI works, it is considered unlikely that there will be a pollution event. Therefore, further assessment of this impact is not considered necessary.

5.5 Wexford Harbour and Slobs SPA (004076)

The SPA is selected for the protection of seabird and wading species during both breeding and non-breeding seasons. The QI species of the site and their ecological requirements are listed in Table 5.2.

Table 5.2: Wexford Harbour and Slobs SPA QI species and their ecological requirements

Species	Breeding	Non-breeding	Prey requirements	Primary supporting habitat within site
Little grebe (<i>Tachybaptus ruficollis</i>) [A004]		✓	Wide	Main channel North Slobs
Great crested grebe (<i>Podiceps cristatus</i>) [A005]		✓	Wide	Sheltered & shallow subtidal over sand flats
Cormorant (<i>Phalacrocorax carbo</i>) [A017]		✓	Highly specialised	Sheltered & shallow subtidal over sand and mud flats
Grey heron (<i>Ardea cinerea</i>) [A028]		✓	Narrower	Widespread, intertidal and channels of North & South Slobs
Bewick's swan (<i>Cygnus columbianus bewickii</i>) [A037]		✓	Wide	Polderland of the North Slobs
Whooper swan (<i>Cygnus cygnus</i>) [A038]		✓	Wide	Lagoon and associated habitats, Intertidal mudflats and shallow subtidal
Light-bellied Brent goose (<i>Branta bernicla hrota</i>) [A046]		✓	Highly specialised	Intertidal mud and sand flats
Shelduck (<i>Tadorna tadorna</i>) [A048]		✓	Wide	Intertidal mud and sand flats Shallow subtidal

Species	Breeding	Non-breeding	Prey requirements	Primary supporting habitat within site
Teal (<i>Anas crecca</i>) [A052]		✓	Wide	Intertidal mud and sand flats and sheltered and shallow subtidal
Mallard (<i>Anas platyrhynchos</i>) [A053]		✓	Wide	Main channel North Slobs
Pintail (<i>Anas acuta</i>) [A054]		✓	Wide	Main channel North Slobs
Scaup (<i>Aythya marila</i>) [A062]		✓	Wide	Main channel – North Slobs
Goldeneye (<i>Bucephala clangula</i>) [A067]		✓	Wide	Main channel North Slobs
Red-breasted merganser (<i>Mergus serrator</i>) [A069]		✓	Highly specialised	Sheltered & shallow subtidal
Hen harrier (<i>Circus cyaneus</i>) [A082]		✓ (post-breeding roost)	Wide	North and South Slobs
Coot (<i>Fulica atra</i>) [A125]		✓	Wide	Main channel North Slobs
Oystercatcher (<i>Haematopus ostralegus</i>) [A130]		✓	Narrower	Intertidal mud and sand flats
Golden plover (<i>Pluvialis apricaria</i>) [A140]		✓	Wide	Intertidal mud and sand flats
Grey plover (<i>Pluvialis squatarola</i>) [A141]			Wide	Intertidal mud and sand flats
Lapwing (<i>Vanellus vanellus</i>) [A142]	✓		Wide	Intertidal mud and sand flats
Knot (<i>Calidris canutus</i>)			Narrower	Intertidal mud and sand flats

Species	Breeding	Non-breeding	Prey requirements	Primary supporting habitat within site
[A143]				
Sanderling (<i>Calidris alba</i>) [A144]			Wide	Intertidal sand flats
Dunlin (<i>Calidris alpina</i>) [A149]			Wide	Intertidal mud and sand flats
Black-tailed godwit (<i>Limosa limosa</i>) [A156]			Wide	Intertidal mud and sand flats
Bar-tailed godwit (<i>Limosa lapponica</i>) [A157]			Wide	Intertidal mud and sand flats
Curlew (<i>Numenius arquata</i>) [A160]		✓	Wide	Intertidal mud and sand flats
Redshank (<i>Tringa totanus</i>) [A162]		✓	Wide	Intertidal mud and sand flats
Black-headed gull (<i>Chroicocephalus ridibundus</i>) [A179]		✓	Wide	Intertidal flats and sheltered and shallow subtidal
Lesser black-backed gull (<i>Larus fuscus</i>) [A183]		✓	Wide	Intertidal flats and sheltered and shallow subtidal
Greenland white-fronted goose (<i>Anser albifrons flavirostris</i>) [A395]		✓	Narrower	Polderland of the North and South Slob
Wigeon (<i>Mareca penelope</i>) [A855]		✓	Narrower	Intertidal mud and sand flats and sheltered and shallow subtidal
Little tern (<i>Sternula albifrons</i>) [A885]	✓		Wide	North and South Slob

5.5.1 Above-water noise, vibration, lighting, and human presence-related species disturbance

As shown in Table 5.2, the species associated with the SPA rely primarily on tidal, intertidal and estuarine habitats for foraging which overlaps with the MUL area (area A). The habitats are largely terrestrial above the high water mark and marine below the high water mark, including intertidal areas. The area of concentrated study is characterised by natural estuarine habitats, reclaimed polders (North and South 'Slobs') and the tidal section of the River Slaney; offering shallow marine waters and extensive exposed intertidal flats at low tide. The Rosslare Harbour is a busy shipping area (EMODnet, 2026) where species in the area are likely to be habituated to marine traffic to a degree, and the temporary addition of a single vessel operating at either low speeds or stationary for the proposed works is unlikely to constitute a significant increase in vessel activity given the levels of vessel activity typical for the area. As such, it is concluded that the QI species of the SPA are likely to be present within the MUL area during SI works. However, due to the temporary and small-scale nature of the works, the potential for exposure to significant disturbance or displacement as a result of the temporary presence of vessels or structures associated with the SI works is low. Therefore, further assessment of this impact is not considered necessary.

5.5.2 Habitat loss or disturbance

The SPA is designated for wetland habitat, with a small portion of wetland habitat within the MUL area, there is potential for the SI works to impact this designated habitat. The Wexford Harbour and Slobs SPA is regarded as one of the most important ornithological sites in Ireland for both nationally and internationally significant bird species; as well as being a proposed national heritage area.

As identified in Table 4.1, there is the potential for loss and/or disturbance to these marine habitats as a result of the sediment sampling methods. In addition to direct habitat loss when taking samples, there will also be temporary habitat loss due to the four feet of the jack-up barge used to conduct sampling, as well as temporary placement of equipment associated with seismic surveys and the anchoring of metocean monitoring buoys.

There is uncertainty as to whether or not significant habitat loss or alteration effects within the QI wetland habitats are likely, without the implementation of mitigation measures due to direct overlap. In light of this there is, similarly, uncertainty about habitat fragmentation impacts. In circumstances where there are any significant, potentially significant, or uncertain effects, further assessment of this impact is considered necessary.

5.5.3 Increased SSC

As discussed in Section 5.3.3, the SI works have the potential to cause temporary increases in SSC. This could potentially lead to indirect effects on SPA QI species due to the smothering of prey species and increases in turbidity. However, due to the limited and temporary nature of sampling, it is considered that significant impacts are unlikely. Therefore, further assessment of this impact is not considered necessary.

5.5.4 Underwater noise

Little evidence exists of impacts to diving species from acoustic survey activities. Waders are not anticipated to be as sensitive to underwater impacts due a lack of time spent

underwater. Given the limited extent and the temporary nature of sound-producing activity, it is considered that there is a low likelihood of interaction between underwater noise sources and diving birds. Therefore, further assessment of this impact is not considered necessary.

5.5.5 Accidental pollution event

While water quality is not a qualifying interest, it is considered that maintaining water quality is essential for supporting the ecology and functioning of the SPA. As discussed in Section 5.3.5, due to the limited and temporary nature of the SI works, it is considered unlikely that there will be a pollution event. Therefore, further assessment of this impact is not considered necessary.

5.6 The Raven SPA (004019)

The SPA is selected for the protection of non-breeding waders. The QI species of the site and their ecological requirements are listed in Table 5.3. The Raven is also a designated Ramsar site; however, the MUL area does not overlap with the Ramsar habitat.

Table 5.3: The Raven SPA QI species and their ecological requirements

Species	Non-breeding	Prey requirements	Primary supporting habitat within site
Red-throated diver (<i>Gavia stellata</i>) [A001]	✓	Highly specialised	Sheltered & shallow subtidal
Cormorant (<i>Phalacrocorax carbo</i>) [A017]	✓	Highly specialised	Sheltered & shallow subtidal over sand and mud flats
Common scoter (<i>Melanitta nigra</i>) [A065]	✓	Highly specialised	Sheltered & shallow subtidal over sand flats
Grey plover (<i>Pluvialis squatarola</i>) [A141]	✓	Wide	Intertidal mud and sand flats
Sanderling (<i>Calidris alba</i>) [A144]	✓	Wide	Intertidal sand flats
Greenland white-fronted goose (<i>Anser albifrons flavirostris</i>) [A395]	✓	Narrower	Polderland of the north and south Slobs

5.6.1 Above-water noise, vibration, lighting, and human presence-related species disturbance

As shown in Table 5.3, the species associated with the SPA rely primarily on subtidal and intertidal habitats for foraging which overlaps with the MUL area (area B). The area of concentrated study is characterised shallow subtidal and intertidal habitat. The Rosslare Harbour is a busy shipping area (EMODnet, 2026) where marine species in the area are likely to be habituated to marine traffic, and the temporary addition of a single vessel operating at either low speeds or stationary for the proposed works is unlikely to constitute a significant increase in vessel activity given the levels of vessel activity typical for the area. As such, it is concluded that the QI species of the SPA are likely to be present within the MUL area during SI works. However, due to the temporary and small-scale nature of the works, exposure to significant disturbance or displacement as a result of the temporary presence of vessels or structures associated with the SI works is low. Therefore, further assessment of this impact is not considered necessary.

5.6.2 Habitat loss or disturbance

The SPA is designated for wetlands habitat in the northern section, however this does not overlap with the MUL area (area B). Therefore it is not anticipated that the SI works will have any significant impact on this designated habitat.

Given the vessel traffic levels experienced around Wexford Harbour, the temporary addition of the SI works vessels and equipment is not anticipated to be significantly different from background levels of disturbance. Given the temporary nature and spacing of sampling along Rosslare's coast, it is similarly anticipated that there will be no significant impact on foraging birds at that site. Therefore, habitat will not be significantly impacted by the SI works.

As mentioned previously, the MUL area (area B) to overlap with the European site is largely subtidal marine habitat, with little intertidal habitat. Therefore, it is considered that significant habitat loss or alteration impacts on the area of wetland habitat is not likely. Due to the conclusion that significant habitat loss or alteration is not considered likely as a result of the SI works, further assessment of this impact is not considered necessary.

5.6.3 Increased SSC

As discussed in Section 5.3.3, the SI works have the potential to cause temporary increases in SSC. This could potentially lead to indirect effects on SPA QI species due to the smothering of prey species and increases in turbidity. However, due to the limited and temporary nature of sampling, it is considered that significant impacts are unlikely. Therefore, further assessment of this impact is not considered necessary.

5.6.4 Underwater noise

Little evidence exists of impacts to diving species from acoustic survey activities. Waders are not anticipated to be as sensitive to underwater impacts due a lack of time spent underwater. Given the limited extent and the temporary nature of sound-producing activity, it is considered that there is a low likelihood of interaction between underwater noise sources and diving birds. Therefore, further assessment of this impact is not considered necessary.

5.6.5 Accidental pollution event

While water quality is not a qualifying interest, it is considered that maintaining water quality is essential for supporting the ecology and functioning of the SPA. As discussed in Section 5.3.5, due to the limited and temporary nature of the SI works, it is considered unlikely that there will be a pollution event. Therefore, further assessment of this impact is not considered necessary.

5.7 Sites with potential ex-situ connectivity

Carnsore Point SAC (002269) and Blackwater Bank SAC (002953) have been screened in for potential ex-situ connectivity for harbour porpoise, which are a QI of each site.

As there is the potential for disturbance and/or displacement of QI species of the Carnsore Point SAC and Blackwater SAC due to geophysical survey underwater noise sources in the absence of mitigation measures, the potential for impact on individuals travelling to the MUL area from potentially connected SACs cannot be ruled out and further assessment is considered necessary. The potential impact on marine mammals is underwater noise, as described in Section 5.3.4.

5.8 In-combination effects

As part any SISAA, other relevant projects and plans in the region must also be considered for the possibility of the proposed project having significant effects on European sites when combined with existing, ongoing, or foreseeable future plans or projects, even in the case that the SI works have no anticipated significant effects when assessed in isolation. The in-combination assessment is scoped regarding the site-specific pressures and threats identified for the protected sites identified in Table 4.2.

5.8.1 Plans

The Wexford County Development plans (2022-2028) are considered in-combination with the survey works proposed along the Rosslare coast, providing port-related activities at Rosslare Harbour located south of the MUL area.

There are no anticipated in-combination effects from plans and therefore in-combination effects are not considered for further assessment.

5.8.2 Projects

Other marine projects, when considered in-combination with the SI works, could potentially give rise to either direct or indirect impacts. A search of planning authority applications and foreshore applications which could interact with the proposed surveys (within 10km) was conducted using the planning authority websites (i.e. My Plan.ie, EIA planning portal which include applications from Wexford Co. Co. planning website). It is appreciated projects including the Rosslare Offshore Renewable Energy (ORE) Hub (MAC20230005), and Uisce Éireann MUL applications (MUL240026) in Rosslare Bay may overlap with the SI works. Uisce Éireann propose to undertake modelling of water currents and bathymetry, while the Rosslare ORE Hub propose construction, operation and maintenance of a hub to support offshore wind developed in the Irish and Celtic Seas.



Considering the level of activity in the vicinity along with the limited and temporary nature of the SI works, with no permanent or continuous impacts, it is considered that the SI works will not have any likely significant cumulative impacts with other plans or projects in the area. There is no potential for spatial overlap with the Rosslare ORE Hub and there is considered to be sufficient separation distance such that there is limited potential for significant cumulative impacts to arise. While there is potential for spatial overlap with the Uisce Éireann MUL applications, significant temporal overlap is deemed unlikely when taking into account the SI works footprint and temporary works. Therefore, further assessment of in-combination effects for the MUL area can be ruled out.

6 SUMMARY AND CONCLUSIONS

A summary of the findings of the preceding section is presented in Table 6.1.

Table 6.1: Summary of SIAA

Impact	Further assessment required per site (Y/N)					
	Slaney River Valley SAC (000781)	Carnsore Point SAC (002269)	Blackwater Bank SAC (002953)	Seas off Wexford SPA (004237)	Wexford Harbour and Slobbs SPA (004076)	The Raven SPA (004019)
Noise, vibration, lighting and human presence-related species disturbance	N	N	N	N	N	N
Habitat loss, alteration, and disturbance	Y	N	N	N	Y	N
Increases in SSC	N	N	N	N	N	N
Underwater noise	Y	Y	Y	N	N	N
Accidental pollution event	N	N	N	N	N	N
Collision with survey vessels	N	N	N	N	N	N
Risk of Entanglement	N	N	N	N	N	N
Invasive species	N	N	N	N	N	N
In-combination effects	N	N	N	N	N	N

Notes: Y = yes and further assessment required. N = no and no further assessment required.

6.1 Conclusions

This report has been prepared to provide a sufficient level of information for MARA to complete a Screening for AA of the potential for likely significant effects on European sites, in view of their COs, arising from the proposed SI works either individually or in combination with other plans or projects. The likely significant effects have been considered in the context of the European sites potentially affected, their QIs and their conservation objectives, through the application of the S-P-R model, which considered the potential extent of effects from the SI works and the potential in-combination effects with other plans or projects. The overall findings are as follows:

- The SI works are not connected with or necessary to the management of the nature conservation interest of any European site.
- The likelihood of significant effects on the conservation objectives of the identified European sites from **airborne noise, vibration, lighting and human presence-related species disturbance** from the SI works can be safely excluded.
- The likelihood of significant effects on the conservation objectives of the identified European sites from **increased SSC** from the SI works can be safely excluded.
- The likelihood of significant effects on the conservation objectives of the identified European sites from **accidental pollution events** from the SI works can be safely excluded.
- The likelihood of significant effects on the conservation objectives of the identified European sites from **collision with survey vessels** from the SI works can be safely excluded.
- **Entanglement with marine survey equipment** from the SI works can be safely excluded.
- The likelihood of significant effects on the conservation objectives of the identified European sites from **invasive species** from the SI works can be safely excluded.
- The likelihood of significant effects on the conservation objectives of the identified European sites from the SI works **in combination with other plans and projects** for the area can be safely excluded.
- The likelihood of significant effects on the conservation objectives of the identified European sites from **habitat loss, alteration and disturbance** from the SI works cannot be safely excluded for the Slaney River Valley SAC and Wexford Harbour and Slobbs SPA.
- The likelihood of significant effects on the conservation objectives of the identified European sites from **underwater noise** from the SI works cannot be safely excluded for the Slaney River Valley SAC, Carnsore Point SAC and Blackwater Bay SAC.

It is our opinion, therefore, that there is need to advance the AA process further to NIS stage due to the **potential for underwater noise and habitat loss and disturbance** only.

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