Nicholas O'Dwyer Ltd

Risk Assessment for Annex IV Species

Rosslare Coastal Erosion & Flood Relief Scheme (CEFRS)

81587

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ACRONYMS AND DEFINITIONS

Acronym	Definition
AA	Appropriate Assessment
ADCP	Acoustic Doppler Current Profiler
CEFRS	Coastal Erosion and Flood Relief Scheme
CPT	Cone Penetration Tests
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ERT	Electrical Resistivity Tomography
EU	European Union
HSE	Health, Safety and Environment
IWDG	Irish Whale and Dolphin Group
MARA	Maritime Area Regulatory Authority
MBES	Multibeam Echo Sounder
MMO	Marine Mammal Observer
MUL	Maritime Usage Licence
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
SISEIA	Screening for Environmental Impact Assessment
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 this report

Cetaceans, marine turtles, and otters are afforded protections under Annex IV of the Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna). The EC (Birds and Natural Habitats) Regulations 2011-2021 (hereafter referred to as “the Regulations”) transpose the Habitats Directive (92/43/EEC) into Irish law.

Regulation 51 of the Regulations sets out the system of strict protection for animals; under this regulation it is an offence to:

- deliberately capture or kill any specimen of these species in the wild
- deliberately disturb these species particularly during the period of breeding, rearing, hibernation and migration
- deliberately take or destroy eggs of these species in the wild
- damage or destroy a breeding or resting place of such animal, or
- keep, transport, sell, exchange, offer for sale or offer for exchange any specimen of these species taken in the wild, other than those taken legally as referred to in Article 12(2) of the Habitats Directive.

It is therefore an offence to capture, kill or disturb deliberately a single cetacean, marine turtle or otter in Irish waters, or to damage/destroy an otter or marine turtle’s breeding or resting place in Ireland, without a derogation licence first obtained from the Minister in accordance with Regulation 54 of the Regulations.

This document has been prepared by RSK Environment Ltd. on behalf of WCC in support of the MUL application to the MARA. This report contains an assessment of the likely effects for the proposed SI works on Annex IV species in accordance with Regulation 54.

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 Graduate 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 Risk Assessment report has been prepared in compliance with the legislative and policy requirements described below.

2 PROJECT DESCRIPTION

2.1 Site location

The MUL area covers a total area of 16.47 km^2 and is split into two separate areas of 0.74 km^2 (area A) and 15.73 km^2 (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.

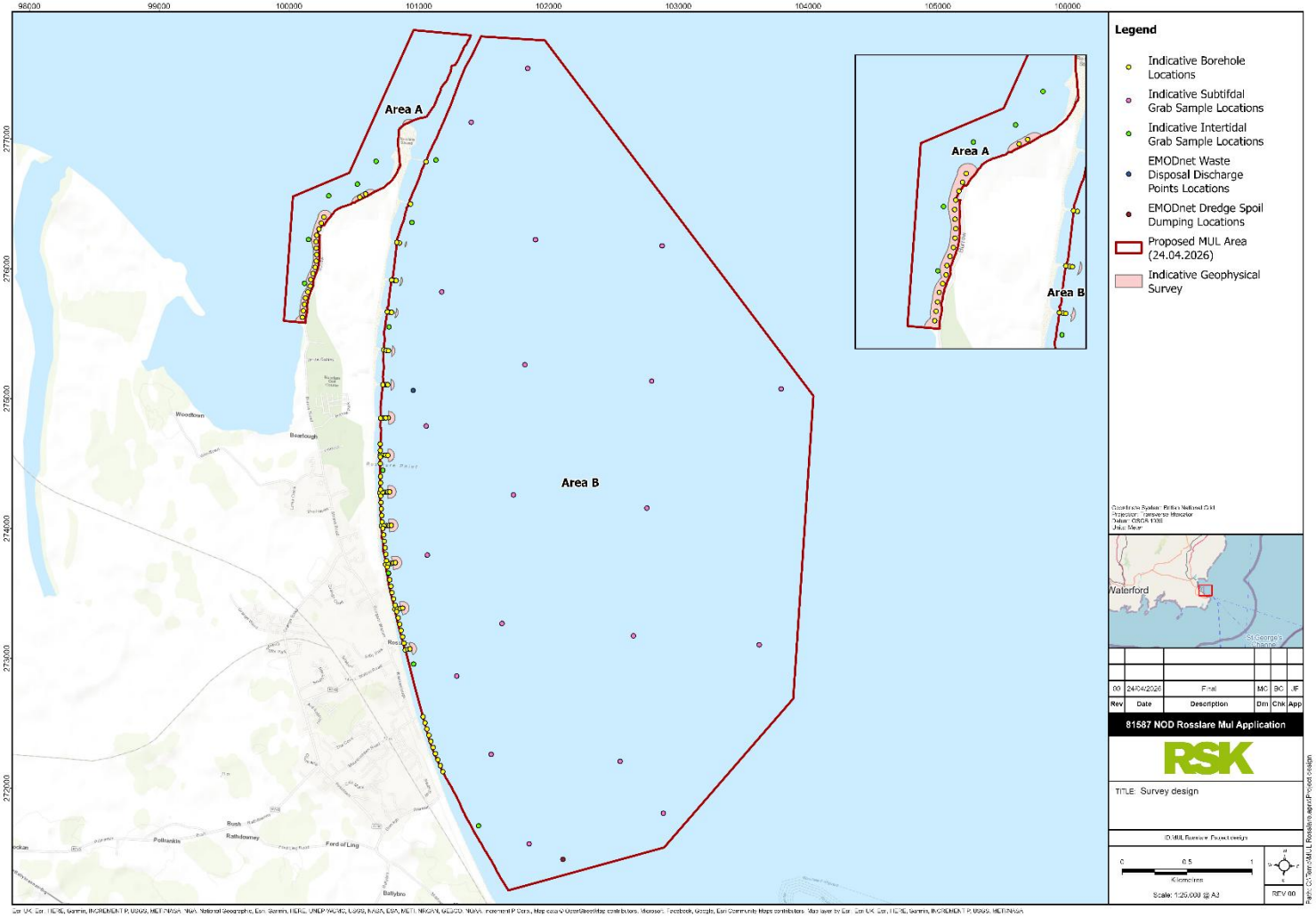

Figure 2.1: Indicative geophysical survey and sampling locations within the MUL area

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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	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. The sound frequencies used by side-scan sonar generally range from 100 to 1000 kHz; higher frequencies yield better resolution but less range.	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.
	Magnetometer	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.	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.
	SBP – parametric	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.	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.

Survey	Method	Method details	Sampling effort
	SBP – boomer	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 0.5 kHz to 5 kHz, with sound pressure levels in the range of 205-211 dB re1µPa @ 1m 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.	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.
	SBP - sparker	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.	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.
	MBES	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	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

Survey	Method	Method details	Sampling effort
		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.	hours over a period of up to 10 days.
	Marine Refraction Seismic	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.	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.
	Marine ERT	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.	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.

Survey	Method	Method details	Sampling effort
Marine environmental/ecological (up to 5 days)	Benthic ecology samples (including subtidal and intertidal habitats surveys)	Identify benthic communities and habitats at the site, intertidal sample locations may be subject to walkover/drone survey in advance of sampling. 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.	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 m^2. Applies across both areas of the MUL.
	Seabed imagery (Remotely Operated Vehicles [ROV] surveys)	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).	Subtidal sample locations may be subject to drop down video in advance of sampling. Applies across both areas of the MUL.
	Intertidal coring and walkover survey	For intertidal sediment assessment a 0.01 m^2 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.	There will be up to 12 no. dedicated intertidal coring/grab locations if shoreline conditions allow for sediment sampling. Applies across both areas of the MUL.

Survey	Method	Method details	Sampling effort
Archaeology (up to 5 days)	Walkover	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. 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.	To be confirmed, pending the results of the geophysical surveys. Applies across both areas of the MUL.
Geotechnical (up to 16 weeks)	Drop-down video	Drop-down video survey to inspect the seabed and identify any sensitive habitats in the vicinity without disturbance to the seabed.	There will be up to **30 transects** of up to 30 m each using a drop down camera and video surveillance. Applies across both areas of the MUL.
	Boreholes	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 m^2 in footprint.	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.

Survey	Method	Method details	Sampling effort
	CPT	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 cm^2. 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.	180 no. CPTs will be conducted of a diameter of 44mm. Applies across both areas of the MUL.
	Grab samples	Grab samples using 0.1 m^2 grabs will be collected for grading, loss on ignition and assessment of benthic community.	A maximum of 32 no. grab samples of surface area 0.1 m^2 will be collected within both areas of the MUL.
	Metocean monitoring buoys	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: • 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	Up to **two buoys** will be placed within the MUL area.

Survey	Method	Method details	Sampling effort
		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)) • optical or electrochemical dissolved oxygen sensor • pH sensor/probe • turbidity sensor • turbidity meter/sediment trap. Metocean monitoring buoys will be anchored with two anchors per buoy. Anchors will have a maximum footprint of 2 m^2 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.	

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	Side Scan Sonar 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	Magnetometer 20 m spacing of main lines and 100 m spacing of cross lines with 25% overlap onto neighbouring lines		
		Up to 10 days	Sub-bottom Profiling 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	Multibeam Echosounder 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		Subtidal Maximum 80	0.1	8
			Intertidal coring Maximum 12	0.01	0.12
Geotechnical	Up to 4 months		Drop down video 30 transects	-	Suitable percentage cover of the MUL area
			Boreholes Maximum 107	0.071	7.597
			CPT 180	0.1	18
			Grab samples 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 guidelines[1] 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 RISK ASSESSMENT FOR ANNEX IV SPECIES

3.1 Legislative context

Under Article 12 and 13 of the Habitats Directive, Member States must establish systems of strict protection for animal and plant species which are particularly threatened, and which are listed on Annex IV of the Directive. Article 16 provides for derogations from these legal protections under certain, specific, circumstances. Article 12, 13 and 16 of the Habitats Directive are transposed into Irish law by Regulations 51, 52 and 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended.

Annex IV species are afforded strict protection throughout their range, both inside and outside of designated protected areas. It is an offence to:

- deliberately capture or kill any specimen of these species in the wild
- deliberately disturb these species particularly during the period of breeding, rearing, hibernation and migration
- deliberately take or destroy eggs of these species in the wild
- damage or destroy a breeding or resting place of such an animal[2]
- deliberately pick, collect, cut, uproot, or destroy any specimen of [plant] species in the wild
- keep, transport, sell, exchange, offer for sale or offer for exchange any specimen of [animal or plant] species taken in the wild, other than those taken legally as referred to in Article 12(2) of the Directive[3].

The granting of another statutory consent (e.g. planning permission or an MUL) does not remove the obligation to obtain a derogation licence in the event of the consented works being likely to not conform with the strict protections afforded to Annex IV species. As such, an application for derogation may have to be made to the Minister for Housing, Local Government & Heritage via the National Parks and Wildlife Service (NPWS) under Regulation 54, in addition to an application for development consent. If satisfied that an application meets the criteria for derogation, the Minister may grant a derogation licence, which may be subject to such conditions, restrictions, limitations, and requirements as the Minister considers appropriate, and these will be specified in the licence.

3.2 Methodology

This risk assessment for Annex IV species has had regard to the following guidance:

- EC (2021), Guidance document on the strict protection of species of community interest under the Habitats Directive. C. (2021) 7301 final. Brussels
- Mullen, E., Marnell, F. & Nelson, B. (2021), Strict Protection of Animal Species. National Parks and Wildlife Service Guidance Series, No. 2. National Parks and Wildlife Service, Department of Housing. Local Government and Heritage

[2] Including any action resulting in damage to, or destruction of, a breeding or resting place of an animal. Breeding or resting places are protected even when the animals are not using them.

[3] National Parks and Wildlife Service (2021) Guidance on the Strict Protection of Certain Animal and Plant Species under the Habitats Directive in Ireland.

- NPWS (2021), Guidance on the Strict Protection of Certain Animal and Plant Species under the Habitats Directive in Ireland. National Parks and Wildlife Service Guidance Series, No. 2. Department of Housing. Local Government and Heritage.
- Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (2014, Department of Arts, Heritage and the Gaeltacht)

This risk assessment for Annex IV species broadly follows the methodology structure outlined in NPWS (2021), as follows:

- use existing information to determine the probability of the protected species being present in the area affected by the works
- ecological survey, if required
- examination of impacts and mitigation measures and satisfactory alternatives (if required). For each species or species group, an assessment was made against each of the strict protections considering project details and the available evidence base for each species.

If the examination of impacts concludes that the SI works will not conform with the strict protections afforded to Annex IV species, then an application will be made for a derogation licence under Regulation 54 of the Regulations.

3.3 Relevant Annex IV species

3.3.1 Cetaceans

The MUL Area does not overlap with any European sites designated for harbour porpoise (*Phocoena phocoena*). The species is however noted as a Qualifying Interest (QI) of the Carnsore Point Special Area of Conservation (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 Risk Assessment for Annex IV species as well as the separate Screening for Appropriate Assessment (SISAA) which also supports this application to MARA. However, it is appreciated few sightings of harbour porpoise have been recorded along the Rosslare coast in relation to the MUL area. Figure 3.1 shows the numbers of observations and relative abundances recorded for 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 area in September 2025 and March 2026 and south of the proposed MUL area during the months of May, June and September 2025.

From the overall low abundances recorded for harbour porpoise along the Rosslare coast per IWDG data, it is unlikely that the MUL area is a key habitat for individuals. Any presence within the MUL area is expected to be transient (Figure 3.1). 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.

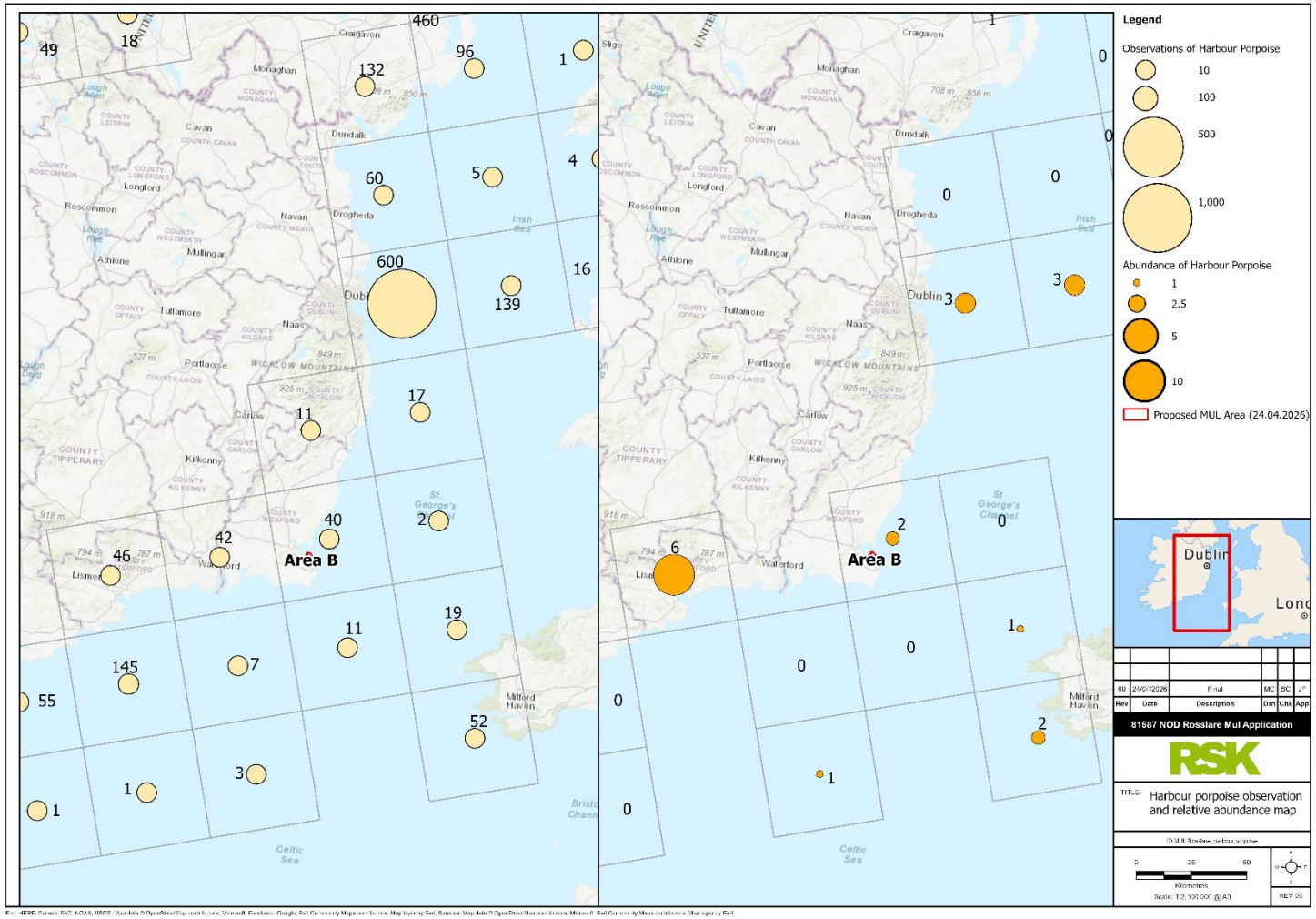

Figure 3.1: Harbour porpoise observation and abundance

3.3.2 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 3.2); 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.

3.3.3 Otter

Otters have been recorded within the Slaney River Valley SAC (Figure 3.2), 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.

3.3.4 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.

3.3.5 Bats

The MUL area has low suitability for bats, largely attributed to the absence of preferred bat habitats (e.g. woodland, hedgerows, freshwater) or roost sites. Considering this has been concluded the SI works will have no impact on bats and they are therefore not considered further within this report.

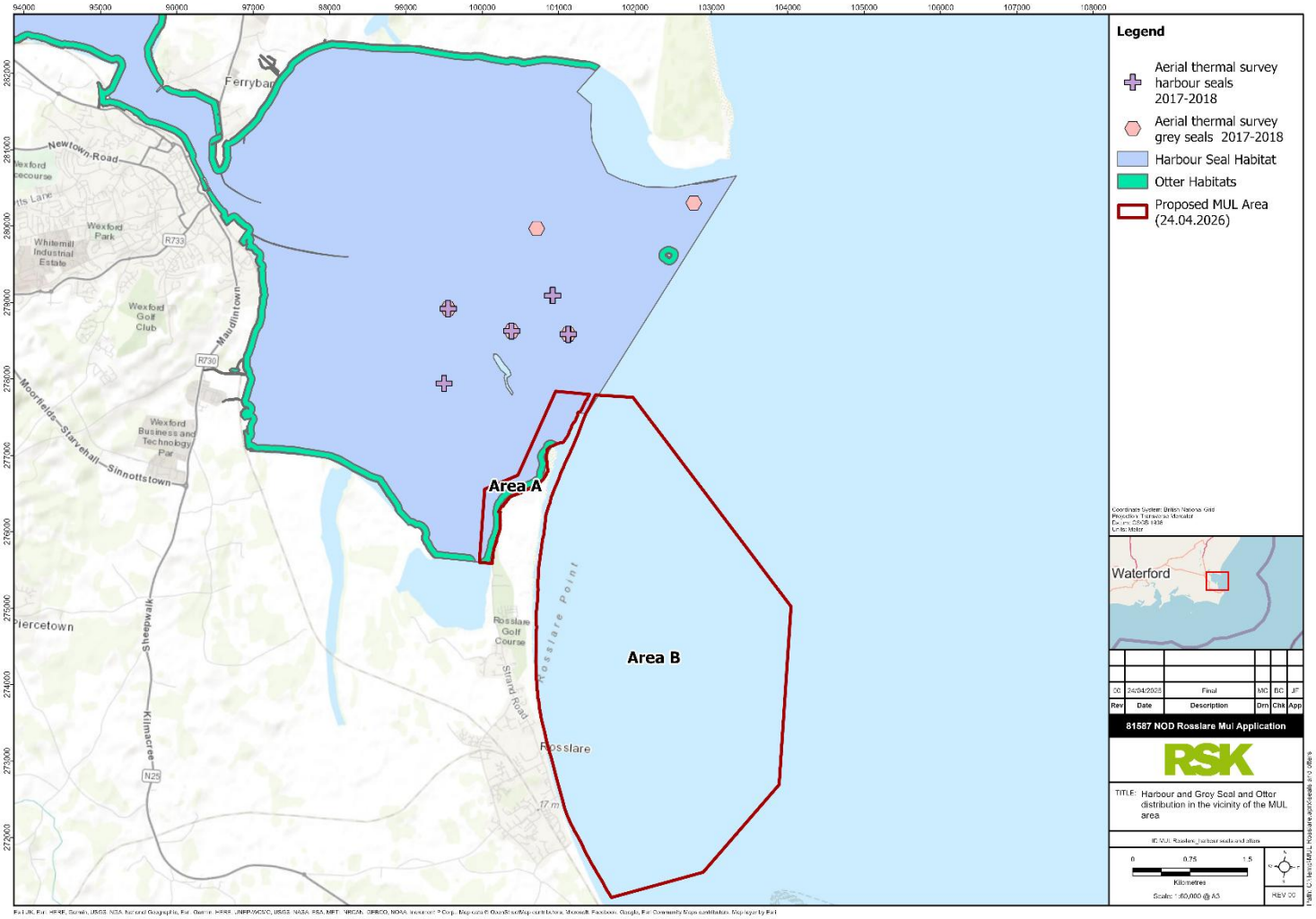

Figure 3.2: Harbour seal, grey seal and otter distribution in the vicinity of the MUL area

4 EXAMINATION OF IMPACTS TO STRICT PROTECTIONS

4.1 Cetaceans and Pinnipeds

Potential impacts to cetaceans, and on the strict protections afforded to these species, associated with the SI works are:

- Above-water noise, vibration, lighting, and human presence-related species disturbance
- underwater noise generated during the geophysical, seismic, sonic drilling and geotechnical surveys resulting in injury and/or displacement
- accidental pollution events
- collision risk with survey vessels, resulting in injury
- entanglement risk with towed and seabed equipment.

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

Rosslare 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 (noting working hours are anticipated to be between 8am and 8pm). 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. Therefore, it is considered that no derogation is required and the proposed SI works will not offend the system of strict protections of Annex IV species under Article 12 of the Habitats Directive.

Underwater noise impacts are considered below.

4.1.2 Underwater noise

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.

Auditory injury in cetaceans 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 (Department of Arts, Heritage and the Gaeltacht (DAHG), 2014). The underwater noise threshold levels for marine mammals as given in international guidance is shown in Table 4.1. The expected sound parameters of the relevant survey activities are presented in Table 4.2.

Table 4.1: TTS- and PTS-onset thresholds for marine mammals exposed to non-impulsive noise

Marine mammal hearing group	TTS onset: SEL (weighted) dB re 1 µPa2s	PTS onset: SEL (weighted) dB re 1 µPa2s
Low frequency cetaceans (baleen whales)	179	199
High frequency cetaceans (most dolphin species)	178	198
Very high frequency cetaceans (harbour porpoise)	153	173
Phocid carnivores (seal species)	181	201
Other Carnivores (otters)	199	219

Table 4.2: Expected noise parameters for survey activities

Survey activity	Frequency range (kHz)	Source level (dB re 1 µPa)
ADCP	600 - 1000	80 (+/- 1.5)
Rotary drilling	0.001- 0.120	145
SSS	100 – 1000	-
SBP	Parametric (2-10) Boomer (0.5 – 5) Sparker (0.5 – 5)	- 205-211 205-211
MBES	300 - 700	215-220
Marine refraction seismic	5 - 90	186-220

The ADCP devices produce some lower frequency sounds that are within the hearing range of high-frequency marine mammal species, such as harbour porpoise. The

proposed ADCP device installation will be temporary in nature and will emit a narrow sound beam (typically a few degrees in width) with a typical echo intensity profile of 80 dB (+/- 1.5 dB). Therefore, the potential impact on protected species is considered to be very low. As such, the possibility for impacts on protected species from underwater noise associated with ADCPs can be excluded from further consideration.

The type of coring and or drilling proposed as well as the size of the boreholes mean that sound levels from the activity is unlikely to exceed previously recorded level of similar setups with source levels of 130-147 dB SPL1 (re 1 µPa) (Erbe & McPherson, 2017). Recent measurements of geotechnical drilling in shallow waters (Huang Long-Fei et al. 2023) recorded an SPL of 155.9 dB re 1µPa rms @ 1 m at a peak frequency of 45 Hz. These levels are below the source levels of even quiet vessels and at modest ranges of c. 100 m, below the commonly used 160 dB SPL2 limit for behavioural effect for marine mammals. Considering that the weighted source level of the drilling/boring (147 dB SPL) is below the TTS or PTS onset levels for all marine mammal species as listed in Table 4.1, it is unlikely that the drilling/boring could cause hearing impact on marine mammals.

The geophysical survey will utilise active acoustic instruments. 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 have a range limited principally by water depth and attenuation particularly of high frequency sources. 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 range. The SSS and MBES, in particular, are higher frequency acoustic survey methods, with acoustic ranges above the hearing sensitive range for marine mammals and are therefore not considered a risk for disturbance.

The SBP and marine refraction seismic survey methods fall within the sensitive hearing range of marine mammals and exceed the onset levels for TTS and PTS for marine mammals. Since the noise levels from these sources exceed TTS and PTS thresholds, there is the potential for underwater noise generated during the SBP and marine refraction seismic surveys to result in injury and/or disturbance to seals and harbour porpoise in the vicinity of the SI works. The estimated zone of audibility for all species is largest for these low-frequency sources, which propagate over longer distances relative to the rapidly attenuating high frequencies. Thus marine mammals, if very close to the survey vessel during site investigations may lead to disturbance and, at worse, auditory injury. As such, impacts from SBP and marine refraction seismic are considered to have potential to give rise to auditory injury to seals and harbour porpoise.

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 Annex IV species from continuous noise.

4.1.3 Accidental pollution risk

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 IV species that rely on these habitats for food.

The MUL area lies within a busy shipping area in which a lot of commercial and recreational vessels operate. Given that the survey would amount to, at most, one jack-up barge 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 insignificant. The survey vessel will be diesel or petrol, 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 Annex IV protected species from accidental pollution events associated with the proposed works can be excluded from further consideration.

4.1.4 Risk of collision

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 survey works 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.

4.1.5 Risk of entanglement

There is potential for entanglement of marine fauna with the use of towed geophysical arrays (e.g. for seismic, MBES, and ERT surveys) and the deployment, recovery, and repositioning of seabed equipment. When assessing the potential impact of entanglement on the marine environment a range of variables should be considered, including the length of equipment, deployment methods and length of time in survey area. If seabed sensors are connected via cables rather than being individual nodes with acoustic release, this increases the potential entanglement risk, particularly for more

mobile and inquisitive species like cetaceans and seals. However, given the short-term and localised nature of the proposed works, the low profile and limited vertical extent of deployed equipment, and the active management and monitoring of gear during operations, the overall risk of entanglement is considered negligible. As such, potential impacts from entanglement can excluded from further consideration.

4.2 Otter

The presence of otters is assumed, but the proposed SI works wouldn't have potential to give rise to any significant impacts to otter, as these areas are already subject to some levels of human disturbance and are part of much larger areas of suitable habitat for the species in the wider area, with more suitable habitats further up the Slaney River. As such, the SI works will have extremely limited potential to impact upon terrestrial resting and breeding locations for otter.

4.3 Basking shark and reptiles

It is unlikely basking sharks and turtle species will be present within the MUL area during the SI works. As such, the possibility for impacts on these species can be excluded from further consideration.

5 NPWS ASSESSMENT

1. Do individuals or populations of Annex IV species occur within the proposed area?

Harbour seals are the most frequently recorded Annex IV species within and adjacent to the MUL area (Area A), whilst few sightings of harbour porpoise and grey seal exist. Otters also occur at the site, it is unlikely that marine turtles and basking shark will occur at the site.

2. Is the plan or project likely to result in death, injury or disturbance of individuals?

The activities proposed during SI works comprise boring, grab sampling, intertidal walkover and core sampling, and geophysical surveys. It is possible that noise generated will be capable of causing disturbance or temporary hearing injury to a marine mammals without mitigation.

The project may cause injury and disturbance without the proposed mitigation, as impacts including noise associated with the project may travel a short distance potentially exposing a suite of Annex IV species to the activity. The risk of injury in the marine environment is considered moderate.

3. Is it possible to estimate the number of individuals of each species that are likely to be affected?

Abundance estimates for harbour seals within the Slaney River Valley SAC are available; at least 27 individuals regularly inhabit the SAC (NPWS, 2015), grey seal have also been recorded along the south-east coast of Ireland and it is possible that these individuals may be exposed to the SI works. Most recent sightings have been made north of the proposed MUL area in September 2025 and March 2026 and south of the proposed MUL area during the months of May, June and September 2025. Therefore it is possible individuals may be impacted by the SI works. Otters are present in small numbers in the SAC, but are unlikely to occur within the MUL area; other species (i.e. basking shark and marine turtles) are unlikely to be present.

4. Will individuals be disturbed at a sensitive location or sensitive time during their life cycle?

The proposed SI works are scheduled to be carried out for a duration of up to four months in Q3/Q4 2026. Harbour seals occur all year around with breeding season occurring between May and October, and moulting season between August and September, when the highest number of seals gather ashore. Grey seal also may occur year-round with pupping season from August-winter. Harbour porpoise are most commonly sighted during summer months (March to September) where the calving season also occurs. Otters also occur year-round in small numbers.

5. Are the impacts likely to focus on a particular section of the species' population, e.g. adults vs. juveniles, males vs. females?

Juveniles of harbour seal, grey seal, otter and harbour porpoise may be exposed to site investigations if born while the SI works are occurring.

6. Will the plan or project cause displacement from key functional areas, e.g., for breeding, foraging, resting or migration?

The MUL area is subject to regular shipping and leisure activities, causing marine mammals to become accustomed to human activities (specifically within area B). However, area A may be regarded as an important habitat for harbour seals, specifically during various months due to spatial overlap with the Slaney River Valley SAC. Therefore it was concluded that the proposed SI works may lead to temporary disturbance of Annex IV species known to occur in the area without mitigation.

7. How quickly is the affected population likely to recover once the plan or project has ceased?

Any disturbance occurring with the proposed mitigation in place would be short term and local to the MUL area and not lead to any long term impacts.

6 MITIGATION MEASURES

The proposed SI works will incorporate a range of measures to safeguard the environment and potential impacts to Annex IV species. The impact of greatest concern for Annex IV species, specifically marine mammals, was determined in this assessment to be underwater noise and vibration from the noise-generating survey activities with the potential to harm or disturb marine mammals (SBP and marine refraction seismic survey), and habitat disturbance; this will be mitigated by implementing a Survey Marine Mammal Mitigation Plan.

The following mitigation measures will be employed. These mitigation measures are in line with best practice guidance (NPWS, 2014):

- qualified Marine Mammal Observer (MMO) will be on board the survey vessel to monitor marine mammal activity and log all events
- pre-start monitoring: relevant operations shall not commence if marine mammals are detected within a 500 m radial distance of the vessel (a conservative range which accounts for the maximum likely zone of influence for potential injury from geophysical surveys of 130 m)
- survey operations shall only commence in daylight hours where effective visual monitoring by the MMOs has been achieved. Where effective visual monitoring is not possible, the sound-producing activities shall be postponed until effective visual monitoring has been completed
- ramp Up: Following the pre-start monitoring, a ramp-up procedure will take place or a period of 20 minutes for all relevant survey equipment
- where the duration of a survey line or station change will be greater than 40 minutes, the activity shall, on completion of the line/station being surveyed, either shut down and undertake a full pre-start monitoring and ramp-up procedure or reduce the sound energy output to a lower state with an output peak SPL of 165-170 dB re 1µPa @1m, and then undertake the full ramp up procedure
- if there is a break in sound output for a period of 5 – 10 minutes the MMO will be required to check that no marine mammals are observed within the monitored zone prior to recommencement of the sound sources at full power. Where a marine mammal is observed within the 500 m monitored zone during such a break, then all pre-start monitoring and a subsequent ramp-up procedure shall recommence as in a normal start-up operation
- if there is a break in sound output for a period greater than 10 minutes, then all pre-start monitoring and a subsequent ramp-up procedure will be undertaken.

7 CONCLUSIONS

The potential for injury or disturbance to occur to Annex IV species consequent of the SI works is considered to be low. The impact with the greatest risk as highlighted by this assessment was determined to be underwater noise and vibration from the SBP and marine refraction seismic survey activities, and habitat disturbance. However, given the temporary nature of the works and with the implementation of the mitigation measures outlined in Section 6, it is considered that the potential impacts resulting from the SI works will be sufficiently reduced such that they will not give rise to significant impacts relating to species protected under Annex IV of the Habitats Directive.

Specifically, the SI works will not impact any of the Annex IV species ability to maintain its population on a long-term basis as a viable element of its natural habitats, nor will the natural range of the species be reduced or likely to be reduced for the foreseeable future as a result of the SI works. The habitat available to Annex IV species will also continue to be sufficiently large to maintain populations on a long-term basis.

Following the assessment of the evidence base and available information on relevant Annex IV species, it is concluded that the SI works comply with the system of strict protections afforded by Article 12, 13 and 16 of the Habitats Directive, transposed into Irish law by Regulations 51, 52 and 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, and, on the basis of the current assessment and embedded mitigation, no derogation under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, is anticipated to be required.

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