MARESCONNECT

Maritime Usage Licence Application for Site Investigation

Nature Impact Statement

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Maritime Usage Licence Application for Site Investigation

Nature Impact Statement

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GLOSSARY

AA
Appropriate Assessment

AIMU
Assessment of Impacts on Maritime Usage

cSAC
Candidate Special Areas of Conservation

DAHG
Department of Arts, Heritage and the Gaeltacht

DHLGH
Department of Housing, Local Government and Heritage

EC
European Commission

EEZ
Exclusive Economic Zone

EU
European Union

GB
Great Britain

Ha
Hectares

IROPI
Imperative Reasons of Overriding Public Interest

Km
Kilometres

LF
Low-Frequency

LSE
Likely Significant Effects

M
Meters

MARA
Maritime Area Regulator Authority

MBES
Multi-beam echo sounder

MCL
MaresConnect Limited

MHW
Mean High Water

MMO
Marine Mammal Observers

MUL
Maritime Usage Licence

MULA
Maritime Usage Licence Area

MW
megawatt

NIS
Natura Impact Statement

NMFS
National Marine Fisheries Services

OWF
Offshore Wind Farm

pSPA
Proposed Special Protection Area

PCW
Phocid Carnivores in water

PTS
Permanent Threshold Shift

QIs
Qualifying Interests

SAC
Special Area of Conservation

SBP
Sub-bottom profiler

SCI
Special Conservation Interests

SISSA Stage 1 Screening for Appropriate Assessment	**USBL** Ultra-short baseline
SoSW Schedule of Survey Works	**UK** United Kingdom
SPA Special Protected Area	**VCs** Vibrocores
SSS Sidescan sonar	**VHF** Very High-Frequency
TTS Temporary Threshold Shift	**ZOI** Zone of Influence

1. INTRODUCTION

1.1 Background

MaresConnect Limited (MCL) is completing feasibility studies for a new High Voltage Direct Current (HVDC) interconnector (MaresConnect) connecting the Great Britain (GB) and the Republic of Ireland (ROI) electricity transmission networks. The GB grid connection point will be established at the existing substation in Bodelwyddan, North Wales. The Irish grid connection point will be located in the Greater Dublin Area, Co. Dublin, with the final location subject to the conclusion of an ongoing technical assessment being undertaken by Eirgrid. The project will provide a nominal 750 MW (megawatt) cross-border transmission capacity between the networks of Ireland and Great Britain.

The project is currently in its planning stages and will require development permission in ROI and Wales and requires completion of environmental and technical assessments to inform the final interconnector design.

The proposed site investigations and survey works are the subject of this Maritime Usage Licence (MUL) and are independent of any potential future development of the MaresConnect project.

Within the jurisdiction of Ireland, the feasibility surveys will be carried out in the geographic area that extends seaward from the High-Water Mark (HWM) extending out to Ireland's Exclusive Economic Zone (EEZ) boundary, a geographic area of approximately 106,366.6 hectares (ha) in total. The regulatory body MARA was established in 2023 and will process applications from the HWM to the Irish EEZ. Applications submitted to the Foreshore Unit before the establishment of MARA will still be processed with the Department of Housing, Local Government and Heritage (DHLGH). Therefore the MaresConnect project will be subject to two separate consenting processes.

In the first instance, MCL submitted and was granted a foreshore licence (FS007635) to carry out the relevant works within the foreshore, as defined in the Foreshore Act 1933, as amended (the Foreshore Acts) (the "Foreshore Licence") on the 4th July 2024. The application for the Foreshore Licence was accompanied by an Environmental Report, Annex IV Species Risk Assessment and Natura Impact Statement, all of which assessed the works to be carried out within the foreshore (i.e. from the Irish HWM seaward to the 12 nautical mile (nm) limit of the foreshore).

Subsequent to the submission of the Foreshore Licence application, Part 5 of the Maritime Area Planning Act 2021, as amended (the "MAP Act") was commenced, requiring MCL to obtain an MUL to carry out works in the area beyond the seaward limit of the foreshore (i.e. beyond the 12nm limit of the foreshore seaward to the EEZ boundary). This Natura Impact Statement (NIS) forms part of the application for the MUL.

For the avoidance of doubt, this NIS considers impacts in the area beyond the seaward limit of the foreshore in combination with the feasibility studies to be carried out within the foreshore, as consented previously under the Foreshore Licence FS007635.

A MUL is sought solely for the proposed site investigation works, within the Maritime Usage Licence Area (MULA) shown in Figure 1-1, which will be temporary and short-term. The screening for Appropriate Assessment (AA) process will be undertaken by the Regulatory Authority, MARA.

1.2 Aim of This Report

The aim of this report is to provide a comprehensive NIS in response to the conclusion of the screening for AA conducted by MARA regarding application MUL240008.

MARA's screening determination outlined that the proposed maritime usage by MCL to conduct site investigation surveys in the Irish Sea, off the Dublin coast, cannot be excluded as having likely

significant effects (LSE) on a European Site. As such, the project requires progression to Stage 2 AA. LSE can be described as effects that, based on an initial screening (AA Screening), cannot be ruled out as being capable of affecting the conservation objectives of a Natura 2000 site in a significant way. These effects include:

- Direct effects – e.g., habitat loss, fragmentation, or physical damage to a protected site.
- Indirect effects – e.g., pollution, water quality deterioration, or disturbance from noise or light.
- Cumulative effects – impacts arising from multiple projects that, when combined, may lead to significant changes.
- In-combination effects – impacts when a project interacts with other existing or planned developments.

This report aims to:

- Assess the potential impacts of the proposed development on European Sites, both individually and in combination with other plans and projects.
- Present detailed scientific information and analysis to determine the likelihood of significant effects, in compliance with the requirements of the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC).
- Outline mitigation measures to avoid or minimize adverse effects on the integrity of European Sites.

The findings of this NIS will serve as a critical component of the Stage 2 AA process, supporting the competent authority in making an informed determination regarding the project's compliance with the relevant legal and environmental requirements.

1.3 Licence Area

The MUL Application is for site investigation and survey works to determine the suitability for cable routeing. The MULA is presented in "Maritime Usage Licence Map 1 (Drawing Ref: P2578-LOC-001-A)". The MULA covers approximately 332.96 km2 (33,296 ha) and, as noted above, extends from the 12nm limit of the 'foreshore' seaward to the EEZ boundary.

MARITIME USAGE LICENCE MAP 1

LOCATION OVERVIEW

MaresConnect Interconnector MUL Boundary

Drawing No: P2578M-LOC-001	B

Upper Right Corner
Irish Tranverse Mercator
797,852.44 795,993.88

Area: 33296 ha

Lower Left Corner
Irish Tranverse Mercator
709,176.04 716,910.58

Legend

- Maritime Usage Area
- EEZ Boundary
- 12 NM Territorial Sea Limit

N W E S

Note: Coordinates listed in Irish Transverse Mercator EPSG 2157

Map prepared by:
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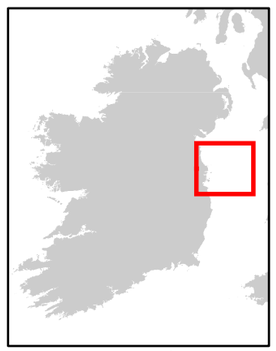

NOTE: Not to be used for Navigation

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Projection	Transverse Mercator
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Created By	[redacted]
Reviewed By	
Approved By	

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1.4 Site Investigation Activities

This section provides a high-level overview of the proposed site investigation and survey works. Full details on the scope for site investigation and survey works is provided within Appendix A of the Assessment of Impacts on Maritime Usage (AIMU) Report (P2578_R6411_Rev0) included with the MUL Application.

The Application seeks a Licence duration or term of five years, although most of the proposed site investigation works and surveys, as detailed below, will be undertaken for short periods (weeks), subject to the availability of site investigation, survey vessels, equipment and appropriate weather conditions. The proposed site investigations and survey works are most likely to be undertaken in Quarters 1 and 2 2025, but the application assesses the likely effects of the proposed investigations and survey works on the basis that they may be undertaken at any time throughout the year, with no seasonal restrictions.

The intention is to carry out site investigation and survey works as soon as feasible following the granting of the MUL, noting that the Foreshore Licence has already been received for the Irish HWM seaward to 12 nm. An anticipated mobilisation date of the 17th February 2025 has been agreed between MCL and the survey contractor.

In summary, the MUL Application is for the following proposed activities in the area between 12 nm and the limit of the EEZ:

- Geophysical survey: The geophysical survey will comprise multibeam echosounder (MBES), sidescan sonar (SSS), sub-bottom profiler (SBP), Ultrashort baseline (USBL) and magnetometer survey sensors to determine seabed conditions within the MUL area. Surveys will be undertaken between Quarters 1 and 2 2025 (subject to weather conditions and any imposed conditions of the MUL) and will be carried out over a period of 3-months (including downtime. This NIS assesses the surveys as if they were being undertaken together, where it is considered that carrying out these surveys concurrently would have the greatest potential for impact.
- Geotechnical: Up to 93 shallow-water Cone Penetration Tests (CPTs) and shallow-water vibrocores (VCs) (both with a penetration depth up to 6m) will be acquired to evaluate the nature and mechanical properties of the seabed sediments. Up to 19 boxcores or Van Veen grabs may be used to characterise shallow soils if the sediment is found to be very soft. The geotechnical survey is likely to be carried out over multiple campaigns to determine site characteristics and ground conditions to determine optimum potential cable positioning. Campaigns are likely to be within a two-to-four-month period in Quarters 1 and 2 of 2025 subject to weather conditions. Indicative geotechnical sample stations are provided in "MUL Application Map 2 (Drawing Reference: P2578-LOC-002)", however the precise positioning of sample stations will be informed by the geophysical survey. Obtaining the results of the geophysical surveys prior to undertaking the geotechnical site investigations ensures that the selection of the precise sample sites is made on an informed basis, minimising the risk of interacting with sensitive ecological or archaeological features in or on the seabed.
- Environmental (benthic sampling): The benthic sampling campaign is likely to occur with the geophysical survey, however, if this is not possible, the benthic sampling will be carried out during a separate 2–3-day period. A grab sampler will be used to retrieve a soil sample of the seabed by the lowering of a mechanical grab. Each grab samples a volume of approximately 0.015m^3. Grabs are required to obtain a sample greater than 5cm in depth, if less than 40% of the grab is acquired then samples will be repeated for up to three attempts. It is likely that three grab samples will be taken at each station (up to 19 stations in total); two for faunal analysis and one for sediment and chemical analysis (up to 57 samples in total). Additional drop-down camera and video transects will be acquired to characterise seabed habitats and sensitive features. Intertidal surveys will be undertaken separately and will take less than 1-week at each potential landfall. Indicative

environmental sample stations are provided in “MUL Application Map 2 (Drawing Reference: P2578-LOC-002)” however the precise positioning of sample stations will be informed by the geophysical survey.

- Archaeological survey: A qualified, Irish registered, marine archaeologist will review all geophysical survey data ahead of geotechnical sampling to evaluate sampling positions for features of underwater importance. Obtaining the results of the geophysical surveys prior to undertaking the geotechnical site investigations ensures that the selection of the precise geotechnical sample sites is made on an informed basis, minimising the risk of interacting with archaeological features in or on the seabed.

Indicative locations of VC, CPT, grab sample positions are provided in Figure 1-2 (Drawing Reference: P2578-LOC-002-A). Locations are indicative only as the precise sample stations will be selected after the geophysical and archaeological survey has been completed, which will minimise any potential environmental or archaeological risks.

MARITIME USAGE LICENCE MAP 2

LOCATION OVERVIEW

MaresConnect Interconnector MUL Boundary Indicative Sampling Locations

Drawing No: P2578M-LOC-002	B

Upper Right Corner
Irish Tranverse Mercator
797,852.44 795,993.88

Lower Left Corner
Irish Tranverse Mercator
709,176.04 716,910.58

Area: 33296 ha

Legend

- Maritime Usage Area
- EEZ Boundary
- 12 NM Territorial Sea Limit
- Drop-down Camera, Grab and Box Core (5km intervals)
- Vibrocore and CPT (1km interval)

N W E S

19 Env Locations

93 Vibrocore and CPT Locations

Note: Coordinates listed in Irish Transverse Mercator EPSG 2157

Map prepared by:
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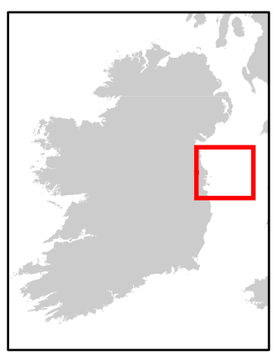

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Reviewed By	
Approved By	

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2. LEGISLATIVE CONTEXT

2.1 Overview

The Birds Directive (2009/147/EC) and the Habitats Directive (92/42/EEC) require European Union (EU) Member States to establish a network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU. This network of sites is known as the Natura 2000 network. The network comprises Special Areas of Conservation (SACs) designated under the Habitats Directive, and Special Protected Areas (SPA) designated under the Birds Directive. SPAs and SACs are designated by the individual member states and are collectively referred to as European sites.

The Natura 2000 network in Ireland is made up of European sites which include SACs, SPAs, candidate SACs (cSACs) and proposed SPAs (pSPAs). cSACs and pSPAs also form part of the network and are treated in Irish law as if fully designated. SACs are designated for the protection of Annex I habitats and Annex II species referred to as the Qualifying Interests (QI) of the site. SPAs are established for the protection of endangered species of wild birds designated under Annex I of the Birds Directive, along with regularly occurring migratory species, such as ducks, geese and waders and areas of wetland and they are referred to as the Special Conservation Interests (SCI) for the site.

A key requirement of the Habitats Directive is that the effects of any plan or project, alone, or in combination with other plans or projects, on the European site network, should be assessed before any decision is made to allow that plan or project to proceed. This process is known as AA. Each plan or project considered for approval, must take into consideration the possible effects it may have in combination with other plans and projects when going through the AA process.

The obligation to undertake AA derives from Article 6(3) and 6(4) of the Habitats Directive.

Article 6(3) of the Habitats Directive states that:

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

This provision is transposed into Irish law in respect of this MUL Application by Part 5 of the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011), (as amended). Regulation 42(1) of the 2011 Regulations provides for screening for AA, as amended by Reg 6(a) of S.I, No.293/2021, as follows:

“Subject to Regulation 42A a screening for AA of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.”

Regulations 42(6) and 42(7) provide for the outcome of screening for AA as follows:

“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.

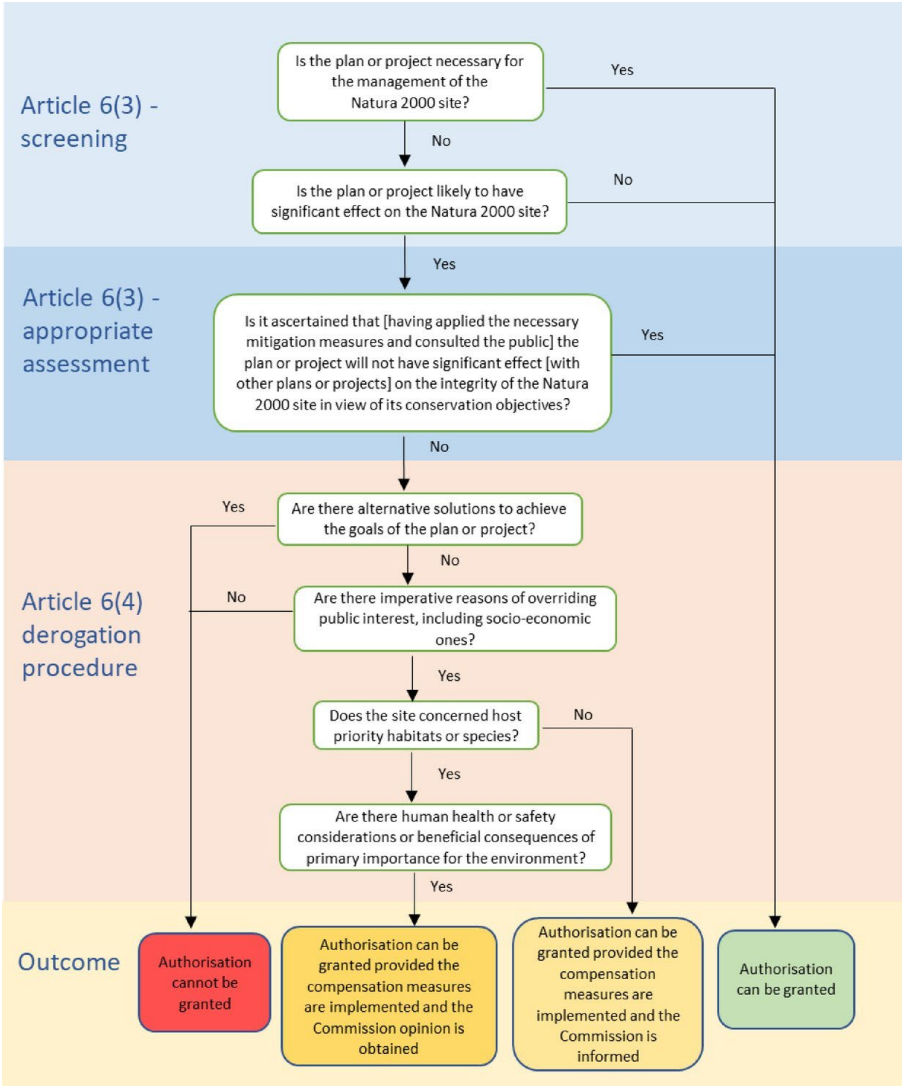
Alternatively, a "public authority shall determine that an AA of a plan or project is required where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it cannot be excluded, on the basis of objective scientific information following 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." Or;

"The public authority shall determine that an AA of a plan or 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 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."

Pursuant to the MAP Act 2021 this NIS will be submitted to the MARA to support the MUL for Site Investigation Works across the MaresConnect site.

The European Commission's methodological guidance on provisions of Art. 6(3) and 6(4) of the Habitats Directive (2021/C 437/01) (EU 2021) outlines a three-stage approach to the AA process, where the outcome at each successive stage determines whether a further stage in the process is required. The results at each step must be documented so there is transparency of the decisions made. The four stages are shown in Figure 1-2 and described below.

Figure 2-1 Stages of AA



Source: European Commission, 2021

2.1.2 Stage 1 - Screening for AA

Stage 1 of the AA process is referred to as screening for AA and identifies whether the proposed plan or project, either on its own or in combination with other plans or projects, would be "likely to have a significant effect" upon any European site. A likely effect is one that cannot be ruled out on the basis of objective information. The test is a 'possibility' of effects rather than a 'certainty' of effects. The test of significance is whether a plan or project could undermine the site's conservation objectives. For the avoidance of doubt, it is confirmed that no measures intended to avoid or prevent any potential harmful effects of the project on any European Site have been considered when carrying out this screening exercise.

2.1.3 Stage 2 - Appropriate Assessment

If effects are considered likely to be significant, potentially significant or uncertain, or if the screening process becomes overly complicated, the process must proceed to Stage 2: Appropriate Assessment, with the preparation of an NIS to inform the AA that is to be conducted by the competent authority.

The European Court of Justice has also made a relevant ruling on what should be contained within an Appropriate Assessment:

"[The Appropriate Assessment] cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned".

2.1.4 Stage 3 – Derogation from Article 6(3) Under Certain Conditions

The third stage of the procedure is governed by Article 6(4). It only comes into force if, despite a negative assessment, the developer considers that the plan or project should still be carried out for imperative reasons of overriding public interest (IROPI). This is only possible if there are no alternative solutions, the imperative reasons of overriding public interest are duly justified, and if suitable compensatory measures are adopted to ensure that the overall coherence of Natura 2000 is protected. .

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

Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a European Site to proceed, in cases where it has been established that no less damaging alternative solution exists.

The extra protection measures for Annex I priority habitats come into effect when making the IROPI case. IROPI reasons that may be raised for sites hosting priority habitats are those relating to human health, public safety or beneficial consequences of primary importance to the environment. In the case of other IROPI for Annex I priority habitats, the opinion of the European Commission is necessary and should be included in the AA. Compensatory measures must be proposed and assessed. The European Commission must be informed of the compensatory measures. Compensatory measures must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the Minister for Housing, Local Government and Heritage.

3. SUPPORTING INFORMATION FOR A STAGE 2 APPROPRIATE ASSESSMENT (NIS)

3.1 Screening Statement and Conclusions

A screening process was undertaken to inform those Natura 2000 sites and their qualifying interests that have been screened in for further assessment under Stage 2 AA. This is described in full in the SISAA (document reference: P2578_R6410_Rev0) and MARA's Screening-for MUL24008 document. MaresConnect prepared a screening report for AA dated 20 June 2024 (SISAA) and submitted this with the MUL Application. The SISAA screened 102 Natura 2000 Sites and outlined that 22 of these sites were identified for potential LSE, however the SISAA concluded: "*that the proposed survey works, either alone or in combination with other plans or projects (including the proposed survey works to be carried out pursuant to the Foreshore Licence) and MUL are not likely to have significant effects on any European Site and the authors have no reasonable scientific doubt as to that conclusion".* Upon receipt of the MUL Application MARA carried out a screening for AA and screened 69 Natura 2000 sites and concluded that "*It cannot be excluded on the basis of objective scientific information following screening that the proposed project, either individually or in combination with other plans or projects, will have a significant effect on a European Site*" 56 of these sites were brought forward for Stage 2 AA The sites that have been screened in as part of the MARA AA screening and their QI , together with the impacts identified as relevant for each site and QI that may result in "Likely Significant Effects" (LSE) to conservation objectives in the absence of mitigation measures are outlined in table 3-1 below.

Table 3-1 Summary of SACs and Designated QIs Screened in for Stage 2 Appropriate Assessment

European Site Name and Code	Distance from the Proposed Development Kilometres (km)	List of Qualifying Interest	Potential source of Impact
Rockabill to Dalkey SAC (Site Code IE003000	15km	Harbour Porpoise (*Phocoena Phocoena)*	Disturbance from Underwater Noise
Lambay Island SAC (Site Code IE000204)	15km	Harbour Porpoise (*Phocoena phocoena*) Grey Seal (*Halichoerus grypus*) Harbour Seal (*Phoca vitulina*)	Disturbance from Underwater Noise
Codling Fault Zone SAC (Site code IE003015)	20km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from Underwater Noise
Carnsore Point SAC [Site code IE002269]	40km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
Blackwater Bank SAC [Site code IE002953]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
Slaney River Valley SAC [Site code IE000781]	>100km	Harbour Seal (*Phoca vitulina*)	Disturbance from underwater noise
Saltee Islands SAC [Site code IE0007071]	>100km	Grey Seal (*Halichoerus grypus*)	Disturbance from above and underwater noise
Roaring Water Bay and Islands SAC [Site code IE000101]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
Blasket Islands SAC [Site code IE002172]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise

European Site Name and Code	Distance from the Proposed Development Kilometres (km)	List of Qualifying Interest	Potential source of Impact
Hook Head SAC [Site code IE000764]	>100km	Common Bottlenose Dolphin (*Tursiops truncatus*) Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
Kenmare River SAC [Site code IE002158]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
Belgica Mound Province SAC [Site code IE002327]	>100km	Harbour Porpoise (*Phocoena Phocoena*)	Disturbance from underwater noise
Inishmore Island SAC [Site code IE000213]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
Kilkieran Bay and Islands SAC [Site code IE002111]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
West Connacht Coast SAC [Site code IE002998]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
Bunduff Lough and Machair/Trawalua/Mullaghmore SAC [000625]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
Lleyn Peninsula and the Sarnau SAC [Site code UK0013117]	>100km	Common Bottlenose Dolphin (*Tursiops truncatus*) Grey Seal (*Halichoerus grypus*)	Disturbance from underwater noise
The Maidens [Site code UK0030384]	>100km	Grey Seal (*Halichoerus grypus*)	Disturbance from underwater noise
The Murlough SAC [Site code UK0016612]	>100km	Harbour seal (*Phoca vitulina*)	Disturbance from above and under water noise

European Site Name and Code	Distance from the Proposed Development Kilometres (km)	List of Qualifying Interest	Potential source of Impact
Strangford Lough SAC [Site code UK0016608]	>100km	Harbour seal (*Phoca vitulina*)	Disturbance from underwater noise
The North Channel SAC [Site code UK0030399]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from underwater noise
Cardigan Bay SAC [Site code UK0012712]	>100km	Common Bottlenose Dolphin (*Tursiops truncatus*) Grey Seal (*Halichoerus grypus*)	Disturbance from above and under water noise
North Anglesey Marine SAC [Site code UK0030398]	75- 100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
West Wales Marine SAC [Site code UK0030397]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Bristol Channel Approaches SAC [Site code UK003039]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Récifs et landes de la Hague SAC [Site code FR2500084]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Anse de Vauville SAC [Site code FR2502019]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Banc et récifs de Surtainville SAC [Site code FR2502018]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Chausey [Site code FR2500079]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Baie du Mont Saint-Michel [Site code FR2500077]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise

European Site Name and Code	Distance from the Proposed Development Kilometres (km)	List of Qualifying Interest	Potential source of Impact
Estuaire de la Rance SAC [Site code FR5300061]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Baie de Lancieux, Baie de l'Arguenon, Archipel de Saint Malo et Dinard [Site code FR5300012]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Cap d'Erquy-Cap Fréhel [Site code FR5300011]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Baie de Saint-Brieuc [Site code FR5300066]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Tregor Goëlo [Site code FR5310070]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Côte de Granit rose-Sept-Iles [Site code FR5300009]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Nord Bretagne DH [Site code FR2502022]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Baie de Morlaix SAC [Site code FR5300015]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Abers - Côte des legends [Site code FR5300017]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Ouessant-Molène [Site code FR5300018]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Côtes de Crozon [Site code FR5302006]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise

European Site Name and Code	Distance from the Proposed Development Kilometres (km)	List of Qualifying Interest	Potential source of Impact
Mers Celtiques Talus du golfe de Gascogne [Site code FR5302015]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Riviére Leguer, forêts de Beffou, Coat an Noz et Coat an Hay [Site code FR5300008]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Estuairie de la Rance [Site code FR53000061]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Chaussée de Sein [Site code FR5302007]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
Récifs du talus du golfe de Gascogne [Site code FR5302016]	>100km	Harbour Porpoise (*Phocoena phocoena*)	Disturbance from under water noise
North West Irish Sea SPA (Site Code IE004236)	Overlaps with MUL site	Red-throated Diver (*Gavia stellata*) Great Northern Diver (*Gavia immer)* Fulmar (*Fulmarus glacialis*) Manx Shearwater (*Puffinus puffinus*) Great Cormorant (*Phalacrocorax carbo*) European Shag (*Phalacrocorax aristotelis*) Common Scoter (*Melanitta nigra*) Little Gull (*Larus minutus*) Black-headed Gull (*Chroicocephalus ridibundus*) Common Gull (*Larus canus*) Lesser Black-backed Gull (*Larus fuscus*)	Disturbance from above and under water noise

European Site Name and Code	Distance from the Proposed Development Kilometres (km)	List of Qualifying Interest	Potential source of Impact
		Herring Gull (*Larus argentatus*) Great Black-backed Gull (*Larus marinus*) Kittiwake (*Rissa tridactyla*) Roseate Tern (*Sterna dougallii*) Common Tern (*Sterna hirundo*) Arctic Tern (Sterna paradisaea) Little Tern (*Sterna albifrons*) Guillemot (*Uria aalge*) Razorbill (Alca torda) Puffin (*Fratercula arctica*)	
Howth Head Coast SPA (Site Code IE004113)	15km	Kittiwake (*Rissa tridactyla)*	Disturbance from above and under water noise
Ireland's Eye SPA (Site Code IE004117)	15km	Herring Gull (*Larus argentatus*) Kittiwake (*Rissa tridactyla*) Great Cormorant (*Phalacrocorax carbo*) Guillemot (*Uria aalge*) Razorbill (*Alca torda*)	Disturbance from above and under water noise
Lambay Island SPA (Site Code IE004069)	25km	Fulmar (*Fulmarus glacialis*) Greylag Goose (*Anser anser*) Lesser Black-backed Gull (*Larus fuscus*) Herring Gull (*Larus argentatus*) Kittiwake (*Rissa tridactyla*)	Disturbance from above and under water noise

European Site Name and Code	Distance from the Proposed Development Kilometres (km)	List of Qualifying Interest	Potential source of Impact
		Great Cormorant (*Phalacrocorax carbo*) European Shag (*Phalacrocorax aristotelis)* Guillemot *(Uria aalge)* Razorbill (*Alca torda*) Puffin (*Fratercula arctica*)	
Rockabill SPA (Site code:004014)	15km	Roseate Tern (*Sterna dougallii*) Common Tern (*Sterna hirundo*) Arctic Tern (*Sterna paradisaea*)	Disturbance from above and under water noise
Dalkey Islands SPA (Site Code IE004172)	25km	Roseate Tern *(Sterna dougallii)* Common Tern *(Sterna hirundo)* Arctic Tern *(Sterna paradisaea*)	Disturbance from above and under water noise
Skerries Islands SPA (Site code: 004122)	25km	Herring Gull (*Larus argentatus*)	Disturbance from above and under water noise
River Nanny Estuary and Shore SPA (Site code: 004158)	25km	Herring Gull (*Larus argentatus*)	Disturbance from above and under water noise
South Dublin Bay and River Tolka SPA (Site IE004024)	35km	Arctic Tern *(Sterna paradisaea)*	Disturbance from above and under water noise
The Murrough SPA (Site code: 004186)	55km	Herring Gull (*Larus argentatus*)	Disturbance from above and under water noise
Wicklow Head SPA (Site code: 004127)	70km	Kittiwake *(Rissa tridactyla)*	Disturbance from above and under water noise

European Site Name and Code	Distance from the Proposed Development Kilometres (km)	List of Qualifying Interest	Potential source of Impact
Seas off Wexford SPA (site code IE0004237)	120km	Kittiwake *(Rissa tridactyla)* Guillemot *(Uria aalge)* Razorbill (Alca torda) Puffin *(Fratercula arctica)* Lesser Black-backed Gull *(Larus fuscus)* Gannet *(Morus bassanus)* Fulmar *(Fulmarus glacialis)* Black-headed Gull *(Chroicocephalus ridibundus)* Common Gull *(Larus canus)* Herring Gull *(Larus argentatus)*	Disturbance from above and under water noise

4. IMPACT ASSESSMENT

4.1 Introduction

This Stage 2 AA (NIS) draws on the SISAA document (P2578_R5969_Rev0) and MARA's screening for MUL24008. The findings from these reports are summarised in Section 3 above.

An AA is a focused and detailed impact assessment of the implications of the plan or project (alone and in combination with other plans and projects), on the integrity of a European Site. The assessment considers the Conservation Objectives of the European Site. It is undertaken by the competent authority, which for MUL is MARA. To inform the AA, the proponent of the plan (i.e., MCL) must provide an NIS which provides data and information on proposed site investigations and an analysis of potential effects on the European Site.

Disturbance from underwater noise associated with the proposed site investigation activities has been identified as a LSE on mobile species QIs of SACs within the zone of influence of the proposed activities.

Visual disturbance and above-water noise associated with the proposed site investigation activities has been identified as a LSE on mobile species QIs of SPAs within the proposed survey activities zone of influence...

4.2 Underwater Noise Disturbance

The Screening for AA concluded that, it cannot be ruled out that the proposed site investigations either alone or in-combination with other projects will not disturb the QIs of designated sites. There is therefore potential for LSE of underwater noise disturbance on the Conservation Objectives of these sites.

Given the potential for LSE from underwater noise, further assessment is required in order to first understand the nature and extent of these effects and then identify suitable mitigation measures to avoid or reduce effects, such that adverse effects will not arise.

4.2.1 Underwater Noise Impacts on Marine Mammals

Exposure to anthropogenic sounds can induce behavioural effects to permanent injury in marine mammals. Loud and prolonged noise may mask communicative or hunting vocalisations, preventing social interactions and effective hunting. Where the threshold of hearing is temporarily damaged, it is considered a Temporary Threshold Shift (TTS), and the animal is expected to recover. If there is permanent damage, this is referred to as Permanent Threshold Shift (PTS), where the animal does not recover, social isolation and a restricted ability to locate food may occur, potentially leading to the death of the animal (Southall *et al*., 2007).

Southall *et al*. (2019) separated marine mammals into auditory groups based on their functional hearing sensitivity. The generalised hearing ranges of these groups are provided by the National Marine Fisheries Services (NMFS) (2018) as summarised in Table 4-1.

Table 4-1 Marine Mammal Groups Based on Auditory Bandwidth

Group (based on auditory bandwidth)	Species observed within and in proximity to the Maritime Usage Licence Area	Auditory range
Low-frequency cetaceans (LF)	Minke whale, humpback whale, fin whale	7Hz – 35kHz

Group (based on auditory bandwidth)	Species observed within and in proximity to the Maritime Usage Licence Area	Auditory range
High frequency cetaceans (HF)	Short-beaked common dolphin, common bottlenose dolphin, white-beaked dolphin, long-finned pilot whale, northern bottlenose whale	150Hz – 160kHz
Very high frequency cetaceans (VHF)	Harbour porpoise	275Hz – 86kHz
Phocid carnivores in water (PCW)	European otter and seals	60Hz – 39kHz

Source: NFMS (2018)

4.2.2 Underwater Noise Impacts to Birds

The Screening for AA concluded that it cannot be ruled out that the proposed site investigations either alone or in-combination with other projects will not disturb the QIs of designated sites. There is therefore the potential there could be an LSE on the conservation objectives of these sites.

Given the potential for LSE from underwater noise, further assessment is required in order to first understand the nature and extent of these effects and then identify suitable mitigation measures to avoid or reduce effects, such that adverse effects will not arise, which is the purpose of undertaken this NIS.

A detailed assessment of potential underwater noise impacts on bird species is provided in Section 4.4.1 and Appendix A. The findings presented therein support the determination of whether significant effects on QI species may arise, and inform the mitigation measures necessary to minimise potential impacts.

4.2.3 Survey Equipment

The geophysical survey includes the use of MBES, SSS, USBL positioning beacons and SBP. Based on the maximum sound pressure levels and emitted frequency ranges, the assessment with focus on SBP activities which will have the greatest effect on QI species from the proposed site investigation.

Most sound energy generated by SBP will be directed towards the seabed and the pulse duration is very short with the survey constantly moving. Lower frequencies generated by SBP are within the hearing range of marine mammals and have lower attenuations than higher frequency sources, therefore this type of equipment could have localised, temporary effects on marine mammal behaviour.

A Vibrocorer, although a continuous noise source, is only used for short durations, typically up to 10 minutes until the VC is submerged and a sample can be taken. Therefore, these will not exceed the TTS or PTS levels for marine mammals. Due to the background shipping noise from the consistent level of cargo and fishing vessels in the MULA it can be expected that marine mammals in the area will be habituated to higher levels of underwater sound.

A summary of typical noise sources from geophysical and geotechnical surveys undertaken within the MULA is presented in Table 4-2 below.

Table 4-2 Typical Geophysical and Geotechnical Surveys

Equipment type	Purpose	Frequency (kHz) (min-max)	Source level SPL (peak) in dB re 1 µPa@1m
Multibeam Echosounder (MBES)	A remote sensing acoustic device typically attached to a vessel's hull. The purpose is to map the water depth to seabed (bathymetry).	Systems range from 200 – 700 Typically, 400 for this water depth	210 – 245
Side Scan Sonar (SSS)	Typically towed at an altitude or 10-15m, sends and receives dual frequency acoustic pulses to detect objects (pipelines, shipwrecks etc) and enable classification of surficial marine geology (sediment type, outcrops, bedforms)	100 – 900 with high resolution models 600/1600	200 – 240
Sub-Bottom Profiler (SBP)	Typically hull mounted or towed at the surface, sends short pulses to the seafloor, and are used to image geological layers and sediment thicknesses beneath the seabed. Types of SBP systems include Pingers, Boomers, Sparkers and Chirp, which have different frequencies.	Overall: 0.5 – 40 Pingers: 2.5 – 7 Boomers: 0.3 – 6 Sparker: 0.3 – 5 Chirp: 3-40	196 – 247
Ultra-short baseline (USBL)	A USBL system has a hull mounted transducer with a transceiver attached to survey equipment. It uses low frequency acoustic sound to verify subsea positioning.	19-34	184-202
Shipping Noise	Shipping is a large contributor of low frequency background noise in oceans	50 - 300	160-175
Vibrocorer	A geotechnical corer uses to achieve cores up to 12m deep	50 Hz	180-190

Note: Modified from the AIMU report (P2578_R6411_Rev0) using MARA (2025) and BlueWise Marine (2023).

4.3 Visual Disturbance and Above Water Noise

MARA's Screening for AA concluded that it cannot be ruled out that the proposed site investigations either alone or in-combination with other projects will not disturb the QIs of designated sites. There is therefore the potential there could be a LSE on the conservation objectives of these sites.

Visual disturbance is only relevant to species that respond to visual cues, for hunting, behavioural responses or predator avoidance, and that have the visual range to perceive cues at a distance. It is particularly relevant to fish, birds, reptiles and mammals that depend on sight but less relevant to benthic invertebrates (ICG-C, 2011).

Above water noise of a survey vessel is not expected to be any greater than other vessels operating in the area. Vessel traffic in the area is from predominantly fishing and cargo vessels..

Potential LSE's on relevant QI's from visual disturbance and above water noise is discussed in sections 4.4.1 to 4.4.4.

4.4 Qualifying Interest Receptors

Appendix A highlights QI's designated within European sites screening for assessment along with their conservation objectives.

4.4.1 Birds

MARA's screening assessment identified 12 SPAs which could have a receptor source pathway and be adversely effected by the project works. The assessment of specific species can be seen in Appendix A of this NIS. Of the twelve sites, only one site overlaps with the MULA, which is the North West Irish Sea SPA, Figure 1-1 (drawing reference: P2578M-LOC-1).

- Dalkey Islands SPA
- Howth Head Coast SPA
- Ireland's Eye SPA
- Lambay Island SPA
- North West Irish Sea SPA
- River Nanny Estuary and Shore SPA
- Rockabil SPA
- Seas off Wexford SPA
- Skerries Islands SPA
- South Dublin Bay and River Tolka SPA
- The Murrough SPA
- Wicklow Head SPA

Within the Foreshore Licence Application (FLA) the most vulnerable receptor to this disturbance would be nesting and breeding birds during the breeding season (February to October), within 2km (4km for diving birds, 10km for red-throated diver) of the proposed site investigations. All breeding colonies for QIs situated along the coast and have been considered within the FLA, the FLA NIS concluded that with implemented mitigation, there will be no adverse effect on the integrity of the designated sites, either alone or in combination with other plans or projects.

Within the MULA both above-water and underwater noise disturbance could result from the presence of the vessels and equipment. Prolonged disturbance could result in impaired breeding, disruption to incubation, and increased nest failures due to predation and nest abandonment (Valente and Fischer, 2011). These factors could affect the demographic characteristics of the population.

The extent to which a seabird responds to disturbance is dependent upon factors including the period of breeding cycles during which disturbance occurs; duration, type and intensity of the disturbance; the presence of opportunistic predators; and the degree of habituation with the disturbance (Garthe & Hüppop, 2004; Showler *et al*., 2010; Fliessbach *et al*., 2019).

Some seabirds are more resilient to disturbance than others, while diving seabirds are particularly sensitive to above-water noise. The probability of a noise-sensitive diving bird being in close proximity to a noise-generating operation is minimal, as the visual presence of activities will likely to deter birds

from the area (BEIS, 2019; Fliessbach *et al*., 2019; Garthe & Hüppop, 2004; Leopold & Camphuysen, 2009).

While diving birds can likely hear underwater noise over distances of 1–2km (Hansen *et al.*, 2017) for moderate levels of sound, the specific distance depends on environmental and behavioural factors, as well as the frequency and amplitude of the noise source. Studies have suggested that noise from survey activities, particularly those involving sonar or other marine survey equipment, can affect marine birds (Gill *et al*., 2005). While the noise from slow-moving vessels may not cause significant immediate displacement, repeated exposure to noise, especially during critical periods such as foraging, can cause disturbance to diving seabirds (Pirotta *et al*., 2018).

The temporary and short-term nature of the survey work, mobile nature of the surveys, and the displacement of most diving species due to flushing disturbance indicates an expected very low likelihood of interaction between the sound source and a diving bird. Therefore, it can be determined that underwater noise would have minimal effect on diving seabirds from Natura 2000 Sites, including those which may forage in the area.

The magnitude of the effect on qualifying bird species will depend on the degree of disturbance. The most disruptive activities to birds are those that are sudden, noisy or fast moving. As such, helicopters and speedboats usually cause the greatest disturbance (Natural England and Suffolk Coast and Heaths 2012). .Vessels traveling at higher speeds cause greater disturbance, leading to a higher proportion of birds flushing at greater distances.

Operational survey vessels will be slow moving, only between approximately 3.6km/h to 5km/h which is slower or the same as walking speed, and at times stationary. At such slow speeds, the vessels are effectively stationary in terms of bird displacement. Studies have shown that slow moving vessels cause little disturbance to birds and birds may habituate to frequent and relatively benign events and noises (Hill *et al*., 1997 in Natural England and Suffolk Coast and Heaths 2012). Any disturbance to qualifying bird species will be brief.

Survey vessels could cause brief displacement from the surrounding marine waters as the vessel(s) pass through the SPA. However, the survey will not act as a barrier and birds will be able to quickly return to foraging grounds once the vessel has passed by.

In general, any disturbance to qualifying bird species is expected to be low, and the vessels' operations are unlikely to lead to long-term displacement or significant effects. However, it is prudent to monitor potential behavioural responses, particularly for sensitive species, and to take mitigation measures if required to reduce noise exposure during critical periods.

The vessels will operate in the FLA and MULA at different times, ensuring that both foraging grounds are not impacted simultaneously. In conjunction with the seasonal restrictions implemented in the Foreshore licence FS007635, the mitigation measures outlined in Section 4.4.1.2 and other survey projects considered in Section 4.5, there will be no adverse in-combination effects on the integrity of any Natura 2000 site.

4.4.1.1 Conclusion

Based on the distance of the MULA to most qualifying sites and the transient and brief displacement which may occur from survey activities, it is therefore concluded that birds will not be significantly displaced from key functional areas and no adverse effects to SPA conservation objectives will occur.

4.4.1.2 Bird Mitigation

To minimise the potential for impacts from visual disturbance and underwater and above water noise on seabirds associated with these SPAs, the following mitigation measures are proposed:

- The project's Marine Mammal Observer (MMO) will also possess appropriate ornithological expertise to identify diving seabirds.

- In the event that the MMO observes a significant cluster of actively foraging, diving birds within 500 meters of the survey vessel, the survey route will be adjusted to maintain a 500-meter distance from the diving birds, where feasible.

Condition 13 of the Foreshore Licence FS007635 imposed a requirement to stay 2km [of] breeding bird locations from February to October. The Applicant confirms that it is satisfied to implement this condition as part of the survey works to be carried out in the MULA.

Providing that the mitigation measures are implemented, there will be **no adverse effect on the QIs of Birds designated in European sites, either alone or in combination with other plans or projects.**

4.4.2 Pinnipeds

Screening identified eight SACs which have pinnipeds as qualifying features which are outlined below. One site, Lambay Island SAC, is within 25km of the MULA while the other sites are over 100km away (Table 3-1).

- Cardigan Bay SAC
- Lambay Island SAC
- Lleyn Peninsula and the Sarnau SAC
- Saltee Islands: site code SAC
- Slaney River Valley SAC
- Strangford Lough SAC
- The Maidens SAC
- The Murlough SAC

4.4.3 Harbour (Common) Seal

There are four screened-in sites with harbour seal as qualifying interests; Lambay Island SAC, Slaney River SAC, The Murlough SAC and Strangford Lough SAC, none of these SACs are within or overlap with the MULA (Table 3-1).

The maximum foraging distance of harbour seals is 273km (Carter *et al*., 2022), therefore individuals from screened-in SACs have the potential to be present within the MULA.

The proposed geophysical survey will be a one-off event and will progress slowly along the proposed survey corridor. Animals will have sufficient time to avoid the survey spread, and it is unlikely that they will swim in close proximity to sound emitting equipment. Effective Deterrence Range (EDR) refers to the distance at which a disturbance (such as noise, light, or movement) is sufficient to cause wildlife, to flee or avoid an area. This range is influenced by the type and intensity of the disturbance as well as the species' sensitivity (Liley and Sutherland, 2007). If an individual were to find itself within the (EDR) of 5km given for geophysical surveys, it is calculated it would be able to move out of this EDR in less than 1 hour (JNCC, 2020). Given that the nearest SAC designated for harbour seals, Lambay Island SAC, is located 25 km from the MULA, it is highly unlikely that individuals within the SAC will be disturbed by the surveys within the MULA. The disturbance is expected to primarily affect individuals foraging outside the SAC boundary.

Individuals foraging in the MULA would need to be present in close proximity to a survey vessel for an extended period of time to experience injurious effects. Mitigation measures are proposed in Section 4.4.8 and implementation of these measures will ensure that survey activities will not commence emitting underwater noise where harbour seals are in close proximity. This will prevent any significant impact on European sites where harbour seals are a QI species.

Harbour seals typically can be disturbed at haul-out sites at a distance of 900m or less (Brassuer and Reijnders, 1994). The designated sites above are located more than 900m from the MULA, the closest of which, Lambay Island SAC, is located 25km from the MULA; therefore, survey activities are unlikely to result in the disturbance of seals at haul-out sites.

The presence of survey vessels will not affect the breeding, moulting and resting behaviour of harbour seals within the SACs and the population composition of these sites will not be affected, due to the distance of MULA from haul-out sites. The above water noise of survey vessels is not expected to be greater than other vessels operating in the area. As the area is also used by other vessels and fishing traffic, there is a degree of background noise which seals will already be accustomed to. Therefore, site investigation works will not cause visual or above water disturbance at a level which will adversely affect the harbour seal population at any European site and will not prevent harbour seal from accessing suitable habitat.

Within the FLA area, Harbour seals in Lambay Island SAC occupy both marine habitats and intertidal shorelines that become exposed during the tidal cycle. The species is present at the site throughout the year during all aspects of its annual life cycle which includes breeding (May to July approx.), moulting (August to September approx.) and non-breeding foraging and resting phases. Harbour seals are vulnerable to disturbance during periods in which time is spent ashore, or in shallow waters, by individuals or groups of animals. This occurs immediately prior to and during the annual breeding season, which takes place predominantly during the months of May to July.

As part of the FLA NIS, a comprehensive assessment of potential disturbance effects on harbour seal was conducted. The evaluation concluded that any visual or noise-related disturbances associated with operations will be localised, temporary, and transient in nature. Given the short duration and limited spatial extent of these effects, combined with the mitigation measures outlined in Section 4.4.8 implemented, there is no anticipated risk of injury or long-term impact on the harbour seal population within the FLA combined with MULA and other activities discussed in section 4.5, that could cause an adverse effect on the integrity of any Natura 2000 site.

4.4.3.1 Conclusion

It has been determined that with the mitigation measures outlined in Section 4.4.8 are implemented, the proposed site investigations will not undermine the conservation objectives of any SAC designated for harbour seal as a QI. As a result, there will be no adverse effects on harbour seal populations within European sites, either alone or in combination with other plans or projects

4.4.4 Grey Seal

There are five screened-in sites with grey seal as qualifying interests; Lambay Island SAC, Saltee Islands SAC, Lleyn Peninsula and the Sarnau SAC, The Maidens SAC, and Cardigan Bay SAC. None of these SACs are within or overlap with the MULA (Table 3-1).

The maximum foraging distance of grey seals is 448km (Cater *et al*., 2022), therefore individuals from screened in SACs have the potential to be present within the MULA.

The proposed geophysical survey will be a one-off event and will progress slowly along the proposed survey corridor. Animals will have sufficient time to avoid the survey spread, and it is unlikely that they will swim in close proximity to sound-emitting equipment. If an individual were to find itself within the EDR of 5 km given for geophysical surveys, it is calculated it would be able to move out of this EDR in less than 1 hour (JNCC, 2020). As the SAC closest designated for grey seal is 25km from the MULA (Lambay Island SAC), it is unlikely that individuals within the SAC will be disturbed based on a 5km EDR, and will affect only individuals foraging outside the SAC.

Individuals foraging in the MULA would need to be present in close proximity to a survey vessel for an extended period of time to experience injurious effects. Mitigation measures are proposed in Section

4.4.8 and implementation of these measures will ensure that survey activities will not commence emitting underwater noise equipment where harbour seals are in close proximity. This will prevent any significant impact on European sites where harbour seals are a QI species.Seals typically can be disturbed at haul-out sites at a distance of 900m or less (Brassuer and Reijnders, 1994). The designated sites above are located more than 900m from the MULA, the closest of which, Lambay Island SAC, is located approximately 25km from the MULA; therefore, survey activities are unlikely to result in the disturbance of seals at haul-out sites.

The presence of survey vessels will not affect the breeding, moulting and resting behaviour of seals within the SACs and the population composition of these sites will not be affected, due to the distance of MULA from haul-out sites. The above water noise of survey vessels is not expected to be greater than other vessels operating in the area. As the area is also used by other vessels and fishing traffic, there is a degree of background noise which seals will already be accustomed to. Therefore, site investigation works will not cause visual or above-water disturbance at a level which will adversely affect the grey seal population at any European site and will not prevent grey seals from accessing suitable habitats.

Within the FLA area grey seal occupies both marine and terrestrial habitats in Lambay Island SAC, including intertidal shorelines and skerries that become exposed during the tidal cycle. It is present at the site throughout the year during all aspects of its annual life cycle which includes breeding (August to December approx.), moulting (December to April approx.) and non-breeding, foraging and resting phases. Grey seals are vulnerable to disturbance during periods when time is spent ashore by individuals or groups of animals. This occurs immediately prior to and during the annual breeding season, which takes place predominantly during the months of August to December.

As part of the FLA NIS, a comprehensive assessment of potential disturbance effects on grey seal was conducted. The evaluation concluded that any visual or noise-related disturbances associated with operations will be localised, temporary, and transient in nature. Given the short duration and limited spatial extent of these effects, combined with the mitigation measures outlined in Section 4.4.8 implemented, there is no anticipated risk of injury or long-term impact on the grey seal population within the FLA combined with MULA and other activities discussed in section 4.5, that could cause an adverse effect on the integrity of any Natura 2000 site.

4.4.4.1 Conclusion

It has been determined that with the mitigation measures outlined in Section 4.4.8 being implemented, the proposed site investigations will not undermine the conservation objectives of any SAC designated for grey seal as a QI. As a result, there will be no adverse effects on grey seal populations within European sites, either alone or in combination with other plans or projects

4.4.5 Cetaceans

Screening identified three SACs within 20km of the MULA (Rockabill to Dalkey SAC, Lambay Island SAC and Codling Fault Zone SAC and 38 sites greater than 100km from the project site, all sites are outlined below. These sites are designated for harbour porpoise (*Phocoena Phocoena*) and common bottlenose dolphin (*Tursiops truncatus*):

- Rockabill to Dalkey SAC
- Lambay Island SAC
- Codling Fault Zone SAC
- Carnsore Point SAC
- Blackwater Bank SAC
- Roaring water Bay and Islands SAC
- Blasket Islands SAC
- Hook Head SAC
- Kenmare River SAC
- Belgica Mound Province SAC
- Inishmore Island SAC
- Kilkieran Bay and Islands SAC
- West Connacht Coast SAC
- Bunduff Lough and Machair/Trawalua/Mullaghmore SAC
- Lleyn Peninsula and the Sarnau SAC
- The North Channel SAC
- Cardigan Bay SAC
- North Anglesey Marine SAC
- West Wales Marine SAC
- Bristol Channel Approaches SAC
- Récifs et landes de la Hague SAC
- Anse de Vauville SAC
- Banc et récifs de Surtainville SAC
- Chausey SAC
- Baie du Mont Saint-Michel SAC
- Estuaire de la Rance SAC
- Baie de Lancieux, Baie de l'Arguenon, Archipel de Saint Malo et Dinard SAC
- Cap d'Erquy-Cap Fréhel SAC
- Baie de Saint-Brieuc SAC
- Tregor Goëlo SAC
- Côte de Granit rose-Sept-Iles SAC
- Nord Bretagne DH SAC
- Baie de Morlaix SAC
- Abers - Côte des legends SAC
- Ouessant-Molène SAC
- Côtes de Crozon SAC
- Mers Celtiques Talus du golfe de Gascogne SAC
- Riviére Leguer, forêts de Beffou,Coat an Noz et Coat an Hay SAC
- Estuairie de la Rance SAC
- Chaussée de Sein SAC
- Récifs du talus du golfe de Gascogne SAC

4.4.6 Harbour Porpoise

Screening identified three SACs within 20km of the MULA (Rockabill to Dalkey SAC, Lambay Island SAC and Codling Fault Zone SAC and 36 sites greater than 100km from the project site, all sites are outlined below. These sites are designated for harbour porpoise (*Phocoena Phocoena*) .

- Rockabil to Dalkey SAC,
- Lambay Island SAC,
- Codling Fault Zone SAC,
- Carnsore Point SAC,
- Blackwater Bank SAC,
- Roaring water Bay and Islands SAC,
- Blasket Islands SAC,
- Hook Head SAC,
- Kenmare River SAC,
- Belgica Mound Province SAC,
- Inishmore Island SAC,
- Kilkieran Bay and Islands SAC,
- West Connacht Coast SAC,
- Bunduff Lough and Machair/Trawalua/Mullaghmore SAC,
- The North Channel SAC,
- North Anglesey Marine SAC,
- West Wales Marine SAC,
- Bristol Channel Approaches SAC,
- Récifs et landes de la Hague SAC,
- Anse de Vauville SAC,
- Banc et récifs de Surtainville SAC,
- Chausey SAC,
- Baie du Mont Saint-Michel SAC,
- Estuaire de la Rance SAC,
- Baie de Lancieux,Baie de l'Arguenon,Archipel de Saint Malo et Dinard SAC,
- Cap d'Erquy-Cap Fréhel SAC,
- Baie de Saint-Brieuc SAC,
- Tregor Goëlo SAC,
- Côte de Granit rose-Sept-Iles SAC,
- Nord Bretagne DH SAC,
- Baie de Morlaix SAC,
- Abers - Côte des legends SAC,
- Ouessant-Molène SAC,
- Côtes de Crozon SAC,
- Mers Celtiques Talus du golfe de Gascogne SAC,
- Riviére Leguer, forêts de Beffou, Coat an Noz et Coat an Hay SAC,
- Estuairie de la Rance SAC,

- Chaussée de Sein SAC,
- Récifs du talus du golfe de Gascogne SAC

Harbour porpoise are known to forage within this region of the Celtic and Irish Sea management unit. Harbour Porpoise are known to be one of the most sensitive marine mammals to underwater noise (Southall *et al*., 2019; Table 4.1). The UK Department for Business, Energy & Industrial Strategy (BEIS) undertook noise modelling as part of a review of consented offshore wind farms in the Southern North Sea SAC which was based on the maximum source levels and bandwidths obtained from a range of SBPs (highest sound level equipment to be used within the planned MCL survey), on harbour porpoise. The results of the noise modelling demonstrated that for harbour porpoise in particular, the onset of PTS could arise from between 17m and 23m from source and potential behavioural effects within 2.4km and 2.5km (BEIS, 2020). This was a worst-case scenario and the use of a Chirper (a type of SBP) with a peak sound pressure level (SPL) of 267 dB re 1 µPa-m.

The zone of ensonification based on the above geophysical survey method is relative to the proximity to the source, harbour porpoise would need to be present in close proximity to the survey vessel for an extended period of time to experience injurious effects.

The proposed geophysical survey will be a one-off event and will progress slowly along the proposed survey corridor. Animals will have sufficient time to avoid the survey spread, and it is unlikely that they will swim in close proximity to sound-emitting equipment. If a marine mammal were to find itself within the EDR of 5 km given for geophysical surveys, it is calculated they would be able to move out of this EDR in less than 1 hour (JNCC, 2020).

If a harbour porpoise were to remain within the EDR for an extended period, potential impacts would primarily relate to temporary behavioural disturbance, including avoidance responses or temporary displacement from the immediate area. However, studies suggest that harbour porpoises typically exhibit avoidance behaviour at received noise levels well below those associated with injury (Tougaard *et al*., 2009; Southall *et al*., 2019). In the unlikely event that an individual remains within the EDR for the full duration of exposure, PTS or TTS in hearing sensitivity could theoretically occur at close range and prolonged exposure to high-intensity sound sources (Lucke *et al*., 2009), indicating the diversity of behavioural responses within this species (Brennecke *et al.,* 2022).

Individuals foraging in the MULA would need to be present in close proximity to a survey vessel for an extended period of time to experience injurious effects. Mitigation measures are proposed in Section 4.4.8 and implementation of these measures will ensure that survey activities will not commence emitting underwater noise where harbour porpoise are in close proximity. This will prevent any significant impact on European sites where harbour porpoise are a QI species.

Within the FLA harbour porpoise was assessed for potential disturbance effects. The assessment concluded that any noise-related disturbances associated with operations will be localised, temporary, and transient in nature. Given the short duration and limited spatial extent of these effects, combined with the mitigation measures outlined in Section 4.4.8 implemented, there is no anticipated risk of injury or long-term impact on the harbour porpoise population within the FLA combined with MULA and other activities discussed in section 4.5, that could cause an adverse effect on the integrity of any Natura 2000 site.

4.4.6.1 Conclusion

It has been determined that with the mitigation measures outlined in Section 4.4.8 being implemented, the proposed site investigations will not undermine the conservation objectives of any SAC designated for harbour porpoise as a QI. As a result, there will be no adverse effects on harbour porpoise populations within European sites, either alone or in combination with other plans or projects

4.4.7 Common Bottlenose Dolphin

There are three sites screened-in for the qualifying interest; Hook Head SAC, Lleyn Peninsula and the Sarnau SAC, Cardigan Bay SAC.

Common bottlenose dolphin are in a high-frequency auditory group (Table 4.1) and from a precautionary approach can be considered to have a similar sensitivity to underwater noise as harbour porpoise.

The UK Department for Business, Energy & Industrial Strategy (BEIS) undertook noise modelling as part of a review of consented offshore wind farms in the Southern North Sea SAC which was based on the maximum source levels and bandwidths obtained from a range of SBP's (highest sound level equipment to be used within the planned MCL survey), on Harbour Porpoise. The results of the noise modelling demonstrated that for harbour porpoise in particular the onset of PTS could arise from between 17 m and 23 m from source and potential behavioural effects within 2.4 km and 2.5 km (BEIS, 2020). This was a worst-case scenario and the use of a Chirper (a type of SBP) with a peak sound pressure level (SPL) of 267 dB re 1 µPa-m.

The zone of ensonification based on the above geophysical survey method is relative to the proximity to the source, marine mammals would need to be present in close proximity to the survey vessel for an extended period of time to experience injurious effects.

The proposed geophysical survey will be a one-off event and will progress slowly along the proposed survey corridor. Animals will have sufficient time to avoid the survey spread, and it is unlikely that they will swim in close proximity to sound-emitting equipment. If a marine mammal were to find itself within the EDR of 5 km given for geophysical surveys, it is calculated they would be able to move out of this EDR in less than 1 hour (JNCC, 2020).

If a common bottlenose dolphin were to remain within the EDR for an extended period, potential impacts would primarily relate to temporary behavioural disturbance, including avoidance responses or temporary displacement from the immediate area. However, studies suggest that common bottle nose dolphin exhibit strong sensitivity to anthropogenic noise and typically exhibit avoidance behaviour at received noise levels well below those associated with injury (Tougaard *et al*., 2009; Southall *et al*., 2019). In the unlikely event that an individual remains within the EDR for the full duration of exposure, PTS or TTS in hearing sensitivity could theoretically occur at close range and prolonged exposure to high-intensity sound sources (Lucke *et al*., 2009), indicating the diversity of behavioural responses by odontoceti cetaceans (Brennecke *et al.,* 2022).

Individuals foraging in the MULA would need to be present in close proximity to a survey vessel for an extended period of time to experience injurious effects. Mitigation measures are proposed in Section 4.4.8 and implementation of these measures will ensure that survey activities will not commence emitting underwater noise where common bottle nose dolphin are in close proximity. This will prevent any significant impact on European sites where harbour porpoise are a QI species.

The FLA was assessed for potential disturbance effects. The assessment concluded that any noise-related disturbances associated with operations will be localised, temporary, and transient in nature. Given the short duration and limited spatial extent of these effects, combined with the mitigation measures outlined in Section 4.4.8 implemented, there is no anticipated risk of injury or long-term impact on the bottlenose dolphin population within the FLA combined with MULA and other activities discussed in section 4.5, that could cause an adverse effect on the integrity of any Natura 2000 site.

4.4.7.1 Conclusion

It has been determined that with the mitigation measures outlined in Section 4.4.8 are implemented, the proposed site investigations will not undermine the conservation objectives of any SAC designated for common bottlenose dolphin as a QI. As a result, there will be no adverse effects on common

bottlenose dolphin populations within European sites, either alone or in combination with other plans or projects.

4.4.8 Cetacean and Pinniped Mitigation

Mitigation measures in this section are proposed to inform the AA.

The magnitude of the effect on marine mammals will depend on the degree of disturbance. The most disruptive activities to marine mammals are those that are sudden, noisy or fast moving. Vessels travelling at faster speeds cause a greater level of disturbance and, at further distances. Survey vessels will be slow moving, only between approximately 3.6km/h to 5km/h which is slower or the same as walking speed, and at times stationary. Studies have shown that slow moving vessels cause little disturbance to marine mammals and marine mammals may habituate to frequent and relatively benign events and noises (Hill *et al*., 1997 in Natural England and Suffolk Coast and Heaths 2012).

Geophysical operations will be undertaken in accordance with DAHG Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters (2014), where appropriate.

The contractor for the proposed site survey and investigation will follow the Department of Arts, Heritage and the Gaeltacht (DAHG) 'Guidance to Manage the Risk to Marine Mammals from Man-made sound sources in Irish Waters' (DAHG 2014). This will include the following measures:

- Use of Marine Mammal Observers (MMO);
- Pre-start monitoring for 30 minutes of 500m radial distance;
- If the output source exceeds 170dB re 1uPA@1mm, and equipment technically allows, then a ramp-up procedure will be used;
- Reduction or Break in sound output for line turns (where appropriate); and
- Reporting of operations and observations.

Should MCL identify that a temporal overlap is likely between this project and those identified in Section 4.5 as having the potential to cause cumulative effects to [QI etc], MCL will engage with those projects to ensure that survey activities are sufficiently distanced to ensure that adverse effects on [QI species] are mitigated for.

With the implementation of the mitigation measures outlined above, there will be **no adverse effect on the QIs of Cetaceans or Pinniped Species designated in European sites, either alone or in combination with other plans or projects.**

4.5 In-Combination Effects

A cumulative effects screening was conducted following the methodology outlined in the European Commission's guidance document, *Assessment of Plans and Projects in Relation to Natura 2000 Sites – Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive* (EC, 2021). This assessment followed a structured approach to evaluating in-combination effects, ensuring a comprehensive appraisal of potential cumulative impacts on Natura 2000 QIs.

The assessment was carried out in the following stages:

1. Assessment of the MULA works alone, as a standalone project – The potential for adverse effects on European sites was first considered in isolation, focusing solely on the survey activities within the MULA area.

2. Assessment of the survey project in its entirety, considering the MULA in combination with the consented foreshore works[1] – This stage evaluated whether any cumulative or in-combination effects could arise from the combined impact of the MULA works and the foreshore survey activities.
3. Assessment of the entire survey project (MULA and foreshore) in combination with other relevant plans or projects – This stage involved a review of projects and proposed developments in proximity to the MULA and FLA areas, assessing whether potential spatial and/or temporal overlaps in activities could lead to cumulative impacts on designated Natura 2000 QIs.
4. Consideration of the entire project, including the Ireland-UK corridor, in combination with the MULA area – This additional assessment examined potential transboundary effects, evaluating whether survey activities within the MULA could contribute to cumulative impacts when considered alongside the full project extent, including the offshore Ireland-UK survey corridor.

The assessment methodology and findings are detailed in the SISAA report accompanying this application (refer to Section 5.3, In-Combination Effects, in the MaresConnect MUL Application for Site Investigation Works SISAA)

4.5.1 Incombination effects Irish Waters

There are three other plans and projects that are within the MULA:

- Microsoft Ireland Operations Ltd Site Investigations (LIC230018 and LIC230016)
- North Irish Sea Array Site Investigations (LIC230001)
- North irish Sea Array Site Investigation (2022-MAC-005)
- Lir Offshore Array Ltd (FS007392)
- MaresConnect (FS007635) – it should be noted that survey vessels will not be operating at the same time in both the MULA and FLA.

In terms of the Foreshore Licence Application area, this list has been reviewed since AA Screening was prepared in June 2024, and there are now 12 projects that have been identified as having potential spatial overlap, these are listed below:

- Microsoft Ireland Operations Ltd Site Investigations (LIC230018)
- North Irish Sea Array (NISA) Windfarm, off Louth, Meath and Dublin (LIC23001)
- North irish Sea Array Site Investigation (2022-MAC-005)
- Lir Offshore Array, off Louth, Meath and Dublin (FS007392)
- SSE Renewables, Braymore Point (Setanta), Dublin (FS006973)
- North Irish Sea Array (NISA) Windfarm, Export Cable Route (FS007358)
- Greystones (OWL) Offshore Windfarm (FS007367)
- North Irish Sea Array (NISA) Windfarm, off Louth, Meath and Dublin (FS007031)
- Sunrise Wind Ltd (FS007151)
- RWE Renewables, Dublin Array (FS007188)
- Bremore Port / Bremore Ireland Port Designated Activity Company (BIPDAC) (MUL240011)

[1] [1] Not all of these projects were considered by MARA as part of their ICA assessment as outlined in the MARA AA Screening Report, however, all of the projects listed in the SISAA are considered again as part of this NIS for completeness.

- University College Dublin (MUL230032)

Whilst the exact schedule for activities is unknown, it is assumed there will be some spatial and temporal overlap; however, MCL will coordinate with any developers that are granted a Foreshore or MU Licence within the region to ensure that surveys do not occur simultaneously or concurrently.

The limited scope and short-term, transient nature of the proposed survey works and existing background levels of disturbance, conclude that there will be no significant in-combination or cumulative effects on European Sites.

4.5.2 In-Combination Effects UK waters

There are two marine licences in place that could potentially have in-combination effects with the site investigation works taking place at the EEZ section of the MULA, the first marine licence is McMahon Design & Management Limited (RML2412). The second is MCL (CML2331), this is the UK marine licence for the MaresConnect project, and it is likely that the same survey vessel will be undertaking the survey in both UK waters as in Irish waters. Licence RML2412 expires in December 2024, , given that the site investigations for MaresConnect is due to take place in Q1 2025 it is unlikely these surveys will overlap. Given the limited scope and short-term, transient nature of the proposed survey works and existing background levels of disturbance, no significant in-combination or cumulative effects on European Sites are expected.

5. APPROPRIATE ASSESSMENT CONCLUSIONS

As part of MUL24008, a SISAA was submitted on behalf of MCL. The SISAA identified 22 European sites for assessment for LSE and concluded that the proposed site investigation works would not significantly impact the conservation objectives of any European site, and therefore, an AA was not required.

However, MARA conducted its own AA Screening and identified 58 European sites—including those in both national and transboundary waters—that required Stage 2 Appropriate Assessment. Based on objective scientific information, MARA determined that it could not be excluded that the proposed project, either alone or in combination with other plans or projects, may have a significant effect on a European site.

In response, a NIS was undertaken to assess the potential impacts on the QIs of these 58 European sites. As outlined in Section 3.1, only one of these sites spatially overlaps with the MULA, while 11 sites are located within 30 km, and the remaining sites are situated beyond 50 km from the MULA. Additionally, Section 4.5 evaluates the potential in-combination effects of other plans and projects, both within the MULA site investigation area and in conjunction with survey works in the FLA (FS760035).

This NIS comprehensively examines the QIs of the identified European sites and assesses the potential impacts of the proposed project activities (see Appendix A). Mitigation measures have been proposed to ensure that the conservation objectives or integrity of these sites are not adversely affected.

In conclusion, this NIS has determined that, upon implementation of the recommended mitigation measures, the proposed site investigation works will not, either alone or in combination with other plans or projects, result in an adverse effect on the integrity of any Natura 2000 site in Irish waters or within other jurisdictions.

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APPENDIX A

Species Conservation Objectives

Table A-1 Species Screened In and Their Conservation Objectives

Species	SPA/SAC	Assessment	Specific Conservation Objective
Arctic Tern (Sterna paradisaea)	North West Irish Sea SPA Rockabill SPA, Dalkey Islands SPA, South Dublin Bay and River Tolka SPA	The Arctic tern is a seabird which has a foraging distance of 25km and could be present within the MULA at the time of the survey activities. The vessel presence will likely ensure that the individuals will avoid foraging in the close vicinity to ongoing activities. Therefore, it is highly unlikely any individuals will be impacted by underwater noise, the relatively small spatial extent of the MULA will not restrict foraging in other unaffected feeding grounds. Above-water noise from survey activities within the MULA will not reach breeding colonies on land.	To maintain the favourable conservation condition of Arctic tern (Sterna paradisaea) in North-west Irish Sea SPA, Rockabill SPA and South Dublin Bay and River Tolka Estuary SPA To restore the Favourable conservation condition of Arctic Tern (Sterna paradisaea) in Dalkey Islands SPA.
Black-headed Gull (Chroicocephalus ridibundus)	North West Irish Sea SPA Seas off Wexford SPA	The Black-headed Gull is a seabird which could be present within the MULA at the time of the survey activities. The vessel presence will likely ensure that the individuals will avoid foraging in the close vicinity of ongoing activities. Therefore, it is highly unlikely any individuals will be impacted by underwater noise, the relatively small spatial extent of the MULA will not restrict foraging in other unaffected feeding grounds. Above-water noise from survey activities within the MULA will not reach breeding colonies on land.	To maintain the favourable conservation condition of black-headed gull (Chroicocephalus ridibundus) at North-west Irish Sea SPA and Seas off Wexford SPA
Common Bottlenose Dolphin (Tursiops truncatus)	Hook Head SAC,N Lleyn Peninsula and the Sarnau SAC, Cardigan Bay SAC	See section 4.4.7	To maintain and restore the habitats and species of European importance at Hook Head SAC and Lleyn Peninsula and the Sarnau SAC, Cardigan Bay SAC
Common Gull (Larus canus)	North West Irish Sea SPA Seas off Wexford SPA	The Common Gull is a seabird that has a foraging distance of 50km so could be present within the MULA at the time of the survey activities. The vessel presence will likely ensure that the individuals will avoid foraging in the close vicinity of ongoing activities. Therefore, it is highly unlikely any individuals will be impacted by underwater noise, the relatively small spatial extent of the MULA will	To maintain the favourable conservation condition of common gull at North-west Irish Sea SPA and Seas off Wexford SPA.

Species	SPA/SAC	Assessment	Specific Conservation Objective
		not restrict foraging in other unaffected feeding grounds. Above-water noise from survey activities within the MULA will not reach breeding colonies on land.	
Common Scoter (Melanitta nigra)	North West Irish Sea SPA	The Common Scoter is a diving seaduck that can be found in Irish waters, particularly during the winter months, the Common Scoter has a foraging distance of a few kilometres from the Coast. Therefore, it is unlikely that the species could be found in the MULA. In the event that the species is present in the MULA, the vessel presence will likely ensure that the individuals will avoid foraging in the close vicinity of ongoing activities. Therefore, it is highly unlikely any individuals will be impacted by underwater noise, the relatively small spatial extent of the MULA will not restrict foraging in other unaffected feeding grounds. Above-water noise from survey activities within the MULA will not reach breeding colonies on land.	To maintain the favourable conservation condition of common scoter at North-west Irish Sea SPA
Common Tern (Sterna hirundo)	North West Irish Sea SPA Rockabill SPA Dalkey Islands SPA	The Common Tern is a seabird bird with a foraging distance of 18km, so could be present within the MULA at the time of the survey activities. The vessel presence will likely ensure that the individuals will avoid foraging in the close vicinity of ongoing activities. Therefore, it is highly unlikely any individuals will be impacted by underwater noise, the relatively small spatial extent of the MULA will not restrict foraging in other unaffected feeding grounds. Above-water noise from survey activities within the MULA will not reach breeding colonies on land.	To maintain the favourable conservation condition of Common Tern (Sterna hirundo) in North-west Irish Sea SPA and Rockabil SPA. To restore the Favourable conservation condition of Common Tern (Sterna hirundo)in Dalkey Islands SPA.
NeedsEuropean Shag (Phalacrocorax aristotelis)	North West Irish Sea SPA Lambay Island SPA Seas off Wexford SPA	The European Shag is a diving seabird with a foraging distance of 20km may be present within the MULA area during survey activities, however, the impact of survey activities on them is anticipated to be minor. This is due to their adaptable foraging behaviour, and tolerance to disturbance. While temporary displacement may occur, the overall impact is	To restore the favourable conservation condition of European Shag (Phalacrocorax aristotelis) in North-west Irish Sea SPA, Lambay Island SPA and Seas off Wexford SPA.

Species	SPA/SAC	Assessment	Specific Conservation Objective
		expected to be minor and will not impact the conservation objectives of Sites this is a QI for.	
Fulmar (Fulmarus glacialis)	North West Irish Sea SPA Lambay Island SPA Seas off Wexford SPA	The Fulmar is a common seabird in Irish waters, with a foraging distance of 69km, and may be present within the MULA area during survey activities. However, the impact of survey activities on the species is anticipated to be minor. This is due to their adaptable foraging behaviour, and tolerance to disturbance. While temporary displacement may occur, the overall impact is expected to be minor and will not impact the conservation objectives of Sites this is a QI for.	To restore the favourable conservation condition of Fulmar (Fulmarus glacialis at North West Irish Sea, Lambay Island and Seas off Wexford SPA.
Gannet (Morus bassanus)	North West Irish Sea SPA	The Gannet may be observed in the MULA, but the impact of survey activities on them is expected to be minor due to their adaptability, and tolerance to disturbance. While temporary displacement may occur, the overall impact is expected to be minor and will not impact the conservation objectives of Sites this is a QI. for.	To restore the favourable conservation condition of Gannet (Morus bassanus) to the North West Irish Sea SPA
Great Black-backed Gull (Larus marinus)	Seas off Wexford SPA	The Great Black-backed Gull has a foraging distance of 70km and may be present within the MULA area during survey activities , but the impact of survey activities on the species is anticipated to be minor. This is due to their adaptable foraging behaviour, reliance on visual cues for hunting, and tolerance to disturbance. While temporary displacement may occur, the overall impact is expected to be minor and will not impact the conservation objectives of this QI for the Seas off Wexford SPA.	To maintain the favourable conservation condition of Great Black-backed Gull (Larus marinus)at North-west Irish Sea SPA
Great Cormorant (Phalacrocorax carbo)	North West Irish Sea SPA Ireland's Eye SPA, Lambay Island SPA	The Great Cormorant has a foraging distance of 25km so may be present within the MULA during survey activities However, the impact of survey activities on them is anticipated to be minor. This is due to their adaptable foraging behaviour and tolerance to disturbance. While temporary displacement may occur, the overall impact is	To restore the favourable conservation condition of Great Cormorant (Phalacrocorax carbo) in North-west Irish Sea SPA.

Species	SPA/SAC	Assessment	Specific Conservation Objective
		expected to be minor and will not impact the conservation objectives of Sites this is a QI for.	
Great Northern Diver (Gavia immer)	North West Irish Sea SPA	The Great Northern Diver has a foraging distance of 10km and may be present in the MULA during survey activities. However, due to their mobility, wide foraging range, and tolerance to disturbance, the impact of survey activities on them is anticipated to be minor and will not impact the conservation objectives of Sites this is a QI for.	To maintain the favourable conservation condition of Great Northern Diver (Gavia immer) in the North West Irish Sea SPA.
Grey Seal (Halichoerus grypus)	Lambay Island SAC Saltee Islands SAC The Maidens SAC Cardigan Bay SAC Lleyn Peninsula and the Sarnau SAC	See section 4.4.4	To maintain the favourable conservation condition of Grey Seal (Halichoerus grypus) in Lambay Island SAC, Saltee Islands SAC, The Maidens SAC, Cardigan Bay SAC and Lleyn Peninsula and the Sarnau SAC.
Greylag Goose (Anser anser)	Lambay Island SPA	The Greylag Goose may be present in the MULA area during survey activities However, the impact of survey activities on the species is anticipated to be minor due to their adaptability and ability to relocate to alternative feeding areas. The impact of survey activities on them is anticipated to be minor and will not impact the conservation objectives of Sites this is a QI for.	To restore the Favourable conservation condition of Greylag Goose (Anser anserin Lambay Island SPA.
Guillemot (Uria aalge)	North West Irish Sea SPA Ireland's Eye SPA Lambay Island SPA Seas off Wexford SPA	The Guillemot is a diving bird with a foraging distance of 73km, so could be present within the MULA at the time of survey activities. The vessel presence will likely ensure that the individuals will avoid foraging in the close vicinity of ongoing activities. Therefore, it is highly unlikely any individuals will be impacted by underwater noise, the relatively small spatial extent of the MULA will not restrict foraging in other unaffected feeding grounds. Above-water noise from survey activities within the MULA will not reach breeding colonies on land.	To maintain the favourable conservation condition Guillemot (Uria aalge) in North West Irish Sea SPA, Ireland's Eye SPA, Lambay Island SPA And Seas off Wexford SPA.

Species	SPA/SAC	Assessment	Specific Conservation Objective
Harbour Porpoise (Phocoena Phocoena)	Rockabill to Dalkey SAC Lambay Island SAC Codling Fault Zone SAC Carnsore Point SAC Blackwater Bank SAC Roaring Water Bay and Islands SAC Blasket Islands SAC Hook Head SAC Kenmare River SAC Belgica Mound Province SAC Inishmore Island SAC Kilkieran Bay and Islands SAC West Connacht Coast SAC Bunduff Lough and Machair/Trawalua/Mullaghmore SAC The North Channel SAC North Anglesey Marine SAC West Wales Marine SAC Bristol Channel Approaches SAC Récifs et landes de la Hague SAC Anse de Vauville SAC Banc et récifs de Surtainville SAC Chausey SAC Baie du Mont Saint-Michel SAC Estuaire de la Rance SAC Baie de Lancieux, Baie de l'Arguenon, Archipel de Saint Malo et Dinard Cap d'Erquy-Cap Fréhel Baie de Saint-Brieuc Tregor Goëlo Côte de Granit rose-Sept-Iles	See section 4.4.6	To maintain the favourable conservation condition of Harbour porpoise in Rockabill to Dalkey Island SAC, Lambay Island SAC, Codling Fault Zone SAC, Carnsore Point SAC, Blackwater Bank SAC, Roaring Water, Bay and Islands SAC, Blasket Islands SAC, Hook Head SAC, Kenmare River SAC, Belgica Mound Province SAC, Inishmore Island SAC , Kilkieran Bay and Islands SAC, West Connacht Coast SAC, Bunduff Lough and Machair/Trawalua/Mullaghmore SAC, The North Channel SAC, North Anglesey Marine SAC , West Wales Marine SAC, Bristol Channel Approaches SAC, Récifs et landes de la Hague SAC, Anse de Vauville SAC , Banc et récifs de Surtainville SAC , Chausey SAC, Baie du Mont Saint-Michel SAC, Estuaire de la Rance SAC , Baie de Lancieux, Baie de l'Arguenon, Archipel de Saint Malo et Dinard , Cap d'Erquy-Cap Fréhel, Baie de Saint-Brieuc, Tregor Goëlo, Côte de Granit rose-Sept-Iles, Nord Bretagne DH,and Baie de Morlaix SAC Abers - Côte des legends Ouessant-Molène Côtes de Crozon Mers Celtiques Talus du golfe de Gascogne Riviére Leguer, forêts de Beffou, Coat an Noz et Coat an Hay

Species	SPA/SAC	Assessment	Specific Conservation Objective
	Nord Bretagne DH Baie de Morlaix SAC Abers - Côte des legends Ouessant-Molène Côtes de Crozon Mers Celtiques Talus du golfe de Gascogne Riviére Leguer, forêts de Beffou, Coat an Noz et Coat an Hay Estuairie de la Rance Chaussée de Sein Récifs du talus du golfe de Gascogne		
Harbour Seal (Phoca vitulina)	Lambay Island SAC Slaney River Valley SAC The Murlough SAC Strangford Lough SAC	See section 4.4.3	To maintain the favourable conservation condition of Harbour Seal (Phoca vitulina) in Lambay Island SAC, Lambay Island SAC, Slaney River Valley SAC, The Murlough SAC and Strangford Lough SAC
Herring Gull (Larus argentatus)	North West Irish Sea SPA Ireland's Eye SPA Lambay Island SPA Skerries Islands SPA River Nanny Estuary and Shore SPA The Murrough SPA Seas off Wexford SPA	The Herring Gull has a foraging distance of 35-50km are likely to be present in the MULA area during survey activities, but the impact of survey activities on them is anticipated to be minor due to their adaptability, opportunistic feeding behaviour, and tolerance to human presence and disturbance. While temporary displacement may occur, the overall impact is expected to be minor and not impact the conservation objectives of Sites this is a QI for.	To restore the favourable conservation condition of herring gull (Larus argentatus in North-west Irish Sea SPA, Ireland's Eye SPA, Lambay Island, and Skerries Islands SPA. To maintain the favourable conservation condition of Herring Gull in River Nanny Estuary and Shore SPA, The Murrough SPA and Seas of Wexford SPA.
Kittiwake (Rissa tridactyla)	North West Irish Sea SPA Howth Head Coast SPA Ireland's Eye SPA Lambay Island SPA Wicklow Head SPA	The Kittiwake has a foraging distance of 50km are likely to be present in the MULA during survey activities, but the impact of survey activities on them is anticipated to be minor due to their adaptability, opportunistic feeding behaviour, and tolerance to human presence and disturbance at sea. Above-	To restore the favourable conservation condition of Kittiwake (Rissa tridactyla) in North-west Irish Sea SPA, Howth Head Coast SPA, Ireland's Eye SPA, Lambay Island SPA, Wicklow Head SPA and Seas of Wexford SPA.

Species	SPA/SAC	Assessment	Specific Conservation Objective
	Seas off Wexford SPA	water noise from survey activities within the MULA will not reach breeding colonies on land. While temporary displacement may occur at sea, the overall impact is expected to be minor and not impact the conservation objectives of Sites this is a QI for.	
Lesser Black-backed Gull (Larus fuscus)	North West Irish Sea SPA Lambay Island SPA Seas off Wexford SPA	Lesser Black back Gulls, with a foraging range of 50–100 km, are likely to be present in the MULA during survey activities. However, due to their adaptability, opportunistic feeding habits, and tolerance to human activity, any disturbance from survey activities is expected to be minimal. While temporary displacement may occur, it is unlikely to have a significant impact on the species or the conservation objectives of the designated sites where they are a qualifying interest.	To maintain the favourable conservation condition of lesser black-backed gull in Northwest Irish Sea SPA, Lambay Island SPA and Seas of Wexford SPA
Little Gull (Larus minutus)	North West Irish Sea SPA	Little Gulls, with a foraging range of up to 50 km, are likely to be present in the MULA area. However, their adaptability, opportunistic feeding behaviour, and tolerance to human activity suggest that any disturbance from survey activities will be negligible, with no significant impact on the species or their conservation status.	To maintain the favourable conservation condition of little gull at North-west Irish Sea SPA.
Little Tern (Sterna albifrons)	North West Irish Sea SPA Seas of Wexford SPA	Little Terns, who have a foraging range of up to 10 km, are likely to be present in the MULA area. However, given their adaptability, opportunistic feeding behaviour, and tolerance to human activity, any disturbance from survey activities is expected to be negligible and unlikely to impact the species or their associated conservation objectives.	To maintain the favourable conservation condition of little tern in North-west Irish Sea SPA To restore the favourable conservation condition of Little Tern Little Tern (Sterna albifrons) at Seas off Wexford SPA.
Manx Shearwater (Puffinus puffinus)	North West Irish Sea SPA Lambay Island SPA Seas off Wexford SPA	Manx Shearwaters, with a foraging range of up to 600 km, are likely to be present in the MULA area. However, given their adaptability, and wide foraging ranges any disturbance from survey activities is expected to be negligible, with no significant impact on the species or their associated conservation objectives.	To maintain the favourable conservation condition of Manx Shearwater (Puffinus puffinus) at North West Irish Sea SPA, Lambay Island SPA and Seas off Wexford SPA

Species	SPA/SAC	Assessment	Specific Conservation Objective
Puffin (Fratercula arctica)	North West Irish Sea SPA Ireland's Eye SPA Lambay Island SPA Seas off Wexford SPA	Puffins with a foraging range of up to 60 km, are unlikely to be present in the MULA during survey activities, as it will be their breeding season. While survey activities may cause temporary disturbance, their relatively short foraging range and strong tolerance to human presence, especially outside the breeding season, suggest that any impacts are likely to be minor and will not impact the conservation objectives of the designated sites where Puffins are a QI. Above-water noise from survey activities within the MULA will not reach breeding colonies on land.	To restore the favourable conservation condition of puffin in North-west Irish Sea SPA, Ireland's Eye SPA, Lambay Island SPA and Seas off Wexford SPA.
Razorbill (Alca torda)	North West Irish Sea SPA Ireland's Eye SPA Lambay Island SPA Seas off Wexford SPA	Razorbills, which forage up to 100 km, are likely to be present in the MULA during survey activities. However, given their adaptability, wide foraging ranges, and tolerance to human activity, any disturbance from survey activities suggests that any impacts are likely to be minor and will not impact the conservation objectives of the designated sites where Razorbill are a QI. Above-water noise from survey activities within the MULA will not reach breeding colonies on land.	To maintain the favourable conservation condition of Razorbill at North West Irish Sea SPA, Ireland's Eye SPA, Lambay Island SPA and Seas off Wexford SPA.
Red-throated Diver (Gavia stellata)	North West Irish Sea SPA Rockabill SPA Dalkey Islands SPA Seas off Wexford SPA	Red-throated Diver may be present in the MULA area, particularly during winter. While they could be temporarily affected by survey activities. Their relatively short foraging distance and potential tolerance to disturbance outside the breeding season suggest that the overall impact of the MULA project is likely to be minor and will not impact the conservation objectives of Sites this is a QI for.	To maintain the favourable conservation condition of Red-throated Diver at North West Irish Sea SPA, Rockabill SPA, Dalkey Islands SPA and Seas off Wexford SPA
Roseate Tern (Sterna dougallii)	North West Irish Sea SPA Rockabill SPA Dalkey Islands SPA South Dublin Bay and River Tolka Estuary SPA	Roseate Tern is a seabird with a foraging distance of 30km, so may be present within the MULA at the time of survey activities. The vessel presence will likely ensure that the individuals will avoid foraging in the close vicinity to ongoing activities. Therefore, it is highly unlikely any individuals will be impacted	To maintain the favourable conservation condition of Roseate Tern (Sterna dougallii) at North West Irish Sea SPA, Rockabill SPA, South Dublin Ba, River Tolka Estuary SPA, The Murrough SPA and Seas off Wexford SPA

Species	SPA/SAC	Assessment	Specific Conservation Objective
	The Murrough SPA Seas off Wexford SPA	by underwater noise, the relatively small spatial extent of the MULA will not restrict foraging in other unaffected feeding grounds. Above-water noise from survey activities within the MULA will not reach the breeding colonies on land.	To restore the Favourable conservation condition of Roseate Tern (Sterna dougallii) in Dalkey Islands SPA